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CHAPTER 1

Specifications

CHAPTER 1 SPECIFICATIONS

1.1 BASIC FEATURES

Machine type	: Desk Top
Applicable lines	: Public Switched Telephone Network (PSTN) or behind PABX
Compatibility	: CCITT Group 3, ECM
Data cording	: MH / MR / MMR
Modem speed	: 14400 / 12000 / 9600 / 4800 / 2400 bps
Transmission speed	: Approx. 6 sec. (MMR)
Effective scanning width	: 8.3 inches (210 mm)
Effective printing width	: 8.2 inches (208 mm)
Scanning method	: Flat bed scanning using a contact image sensor (CIS)
Memory	: 1256 KByte (including ECM buffer 64 KByte)
Halftone	: 16 levels
Printing speed	: 5 PPM (A4 size)
Automatic document feeder	: 20 pages
TEL / FAX switching	: Automatic
Phone	: Built-in handset
One-touch dial	: 20 locations
LCD	: 16 characters x 2 lines
Dimension (H x W x D) (trays and cassette excluded)	: 7.7 x 13.6 x 16.4 inches (195 x 346 x 416 mm)
Weight	: Approx. 12.5 kg (recording paper excluded)
Power	: 120 VAC / 60 Hz

1.2 TECHNICAL PARAMETERS

SCANNER

Scanning Method : Flat bed scanning by CIS and step feeding of the document by a stepping motor

Resolution
- Horizontal : 8 dots / mm (203 dpi)
- Vertical
  - STANDARD : 3.85 lines / mm (98 lpi)
  - FINE : 7.7 lines / mm (196 lpi)
  - SUPER FINE : 15.4 lines / mm (391 lpi)

Photo scale : 16 shades

Scanning period
- STANDARD : 10 ms / line
- FINE : 5 ms / line
- SUPER FINE : 5 ms / line

Document size
- Width : 5.8 to 8.5 inches (148 to 216 mm)
- Length
  - Single page : 5 to 14 inches (128 to 356 mm)
  - Multi page : 5 to 11.7 inches (128 to 297 mm)
- Manual assistance : infinite

Weight
- single page : 12.5 lb. - 32 lb. (Thickness 0.075 - 0.15 mm)
- Multi page : 12.5 lb. - 24 lb. (Thickness 0.075 - 0.15 mm)

Automatic document feeder (ADF)
- Letter size : 20 Sheets
  - Class 1-5 : 10 Sheets
  - Class 1-3 : 20 Sheets

Thickness of document according to each class (letter size)

CLASS	THICKNESS	WEIGHT (U.S. POUND)		
1	0.075 mm	12.5 Ib		
2	0.10 mm	20.0 Ib	ADF: 20 sheets	
3	0.12 mm	24.0 Ib		ADF: 10 sheets
4	0.13 mm	28.0 Ib		
5	0.15 mm	32.0 Ib		

Scanning position
- Top edge : 2 mm ± 2 mm (0.079 ± 0.079 inch)
- Bottom edge : 0 mm ± 2.5 mm (0 ± 0.098 inch)

PRINTER

Recording method : Electrostatic image recording with LED array
Printing speed
Letter : 5 pages / minute

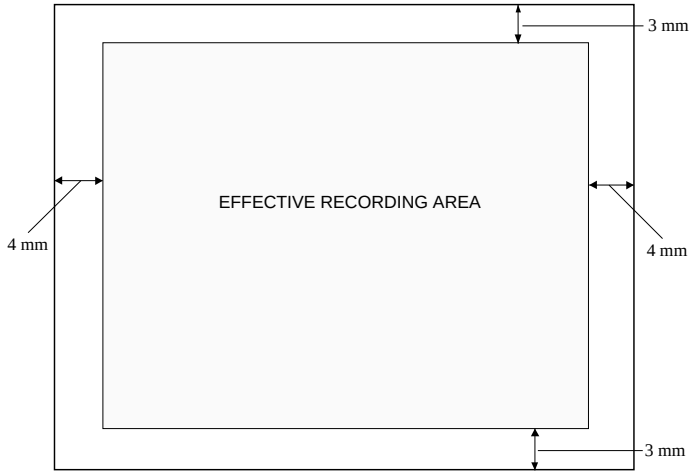
Recording density
Horizontal : 8 dots / mm (203 dpi)
Vertical : 7.7 lines / mm (196 lpi)

Recording paper size
Size
Letter : 8.5 x 11 inches (216 x 279 mm)
Legal : 8.5 x 14 inches (216 x 356 mm
Weight : 16 - 24 lbs (60 - 90 g / m^2)
Thickness : 0.08 - 0.12 mm

Recording paper cassette
Basic cassette
Msys 5600 : Letter 250 sheets
Msys 5700 : Letter 500 sheets
Reference weight : 75 g / m^2 (20 lbs)

Maximum Reduction : Legal → Letter

Effective recording area



First sheet copying time : Less than 30 seconds
Warm up time : Less than 60 seconds (at ambient temperature of 25°C)

Recording paper stack
Type : Face up stack
Capacity : 100 sheets
Reference weigh : 75 g / m^2 (20 lbs)

Printing density and uniformity
Density : Greater than 1.0 O.D (Optical Density)
Uniformity : Less than 0.3 O.D

AUTO DIALER

Pulse dialer

Pulse rate	: 10 + 0.8 pps
Break ratio	: 58 - 64 %
Interdigit pause	: 700 ms - 1 sec

Loop resistance

Break period	: 100 kohm min. tip, ring
Make period	: 300 kohm max. tip, ring

Pause time : 3.3 sec ± 0.3 sec.

MF dialer

Frequencies (tolerance: ± 1.5%)

L \ H	1209 Hz	1336 Hz	1477 Hz
697 Hz	1	2	3
770 Hz	4	5	6
852 Hz	7	8	9
941 Hz	*	0	#

Output level

Lower freq. level	: -8 ± 2 dBm at 20 mA
Higher freq. level	: -6 ± 2 dBm at 20 mA
Twist level	: 2 ± l dBm at 20 mA

Timing

1 digit duration	: 100 msec. min.
Interdigit pause	: 45 msec. - 3 sec.
Access pause	: 3.3 sec. ± 0.3 sec.

MODEM

Modulation

Group 3/ ECM	: CCITT V.17 (FX5600)
	: CCITT V.29 V.27ter
Binary signal	: CCITT V.21 T.30
Tonal signal	: CCITT V.30

SOUND

Key click	: Frequency 1.6 kHz, Duration 30 msec.
Alarm	: Frequency 1.6 kHz, Duration 2 sec.
Transmission completion	: Normal 1 sec. / Error 1 sec.
Operator call	: 15 sec. (1.28 sec On / 1.28 sec Off)

LINE INTERFACE

Off hook DC loop resistance
- Tip-ring : 50 - 220 ohm
- Input impedance : 600 ohm ± 30% at 300 - 3400 Hz

On hook
- Ring sensitivity
  - Ring voltage : 40 - 150 Vrms
  - Frequency : 15.3- 68 Hz
  - Duration : 180 msec. min.

On-hooK DC resistance
- Tip-ring : 1600 ohm min.
- Tip-ring earth : 100 kohm min.
- Condition : 40 - 150 Vrms, DC 52.5 V, 15.3 - 68 Hz

POWER SUPPLY

Input voltage : 120 VAC / 60 Hz

Power consumption
- Standby : 16 watts
- Copy : 490 watts

Power cord length : 2.7 m + 20 cm /-0 cm
Power switch : Available

High Voltage power supply
- Input : 24 Vdc, 1.0 A
- Output : 3.8 KVdc at 40 Mohm
  -4.4 KVdc at 22 Mohm

ENVIRONMENT

		Ambient Temperature	Relative Humidity
Operation		50°F ~ 86°F (10°C ~ 30°C)	30 ~ 80%
Storage	**Body**	-1 3°F ~ 1 58°F (-25°C ~ 70°C)	20 ~ 90%
	Durm	-4°F ~ 95°F (-20°C ~ 35°C)	35 ~ 85%, 2 years
		95°F ~ 104°F (35°C ~ 40°C)	10 ~ 35%, 85 ~ 90% 360 hours
	Toner	-4°F ~ 95°F (-20°C - 5°C)	10 ~ 91%, 2 years
		95°F ~ 113°F (35°C - 45°C)	10 ~ 90%, 360 hours

SAFETY : UL1950 / CSA No. 220

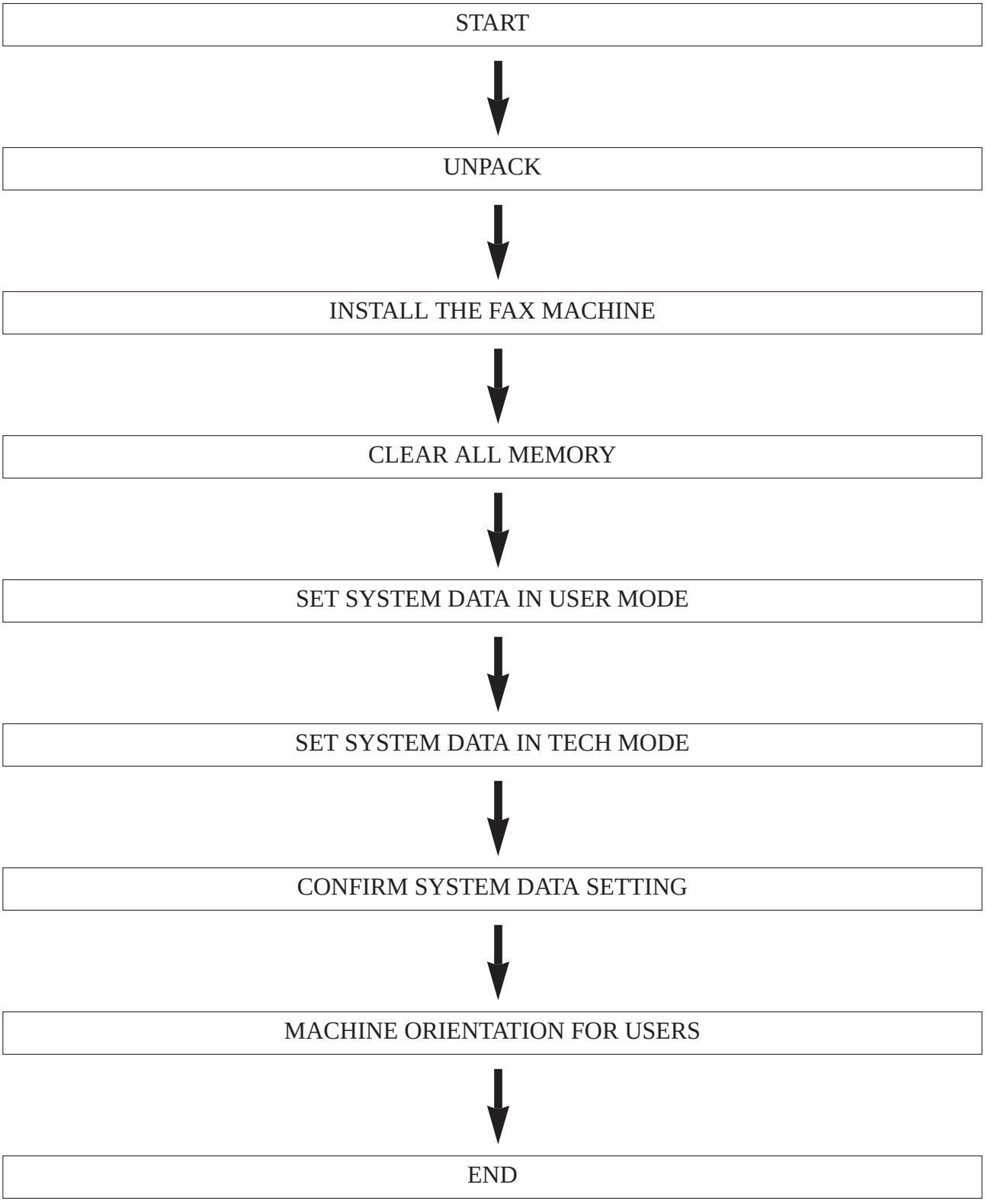
RFI : FCC part 15 Class A

CHAPTER 2
Installation

Chapter 2 INSTALLATION

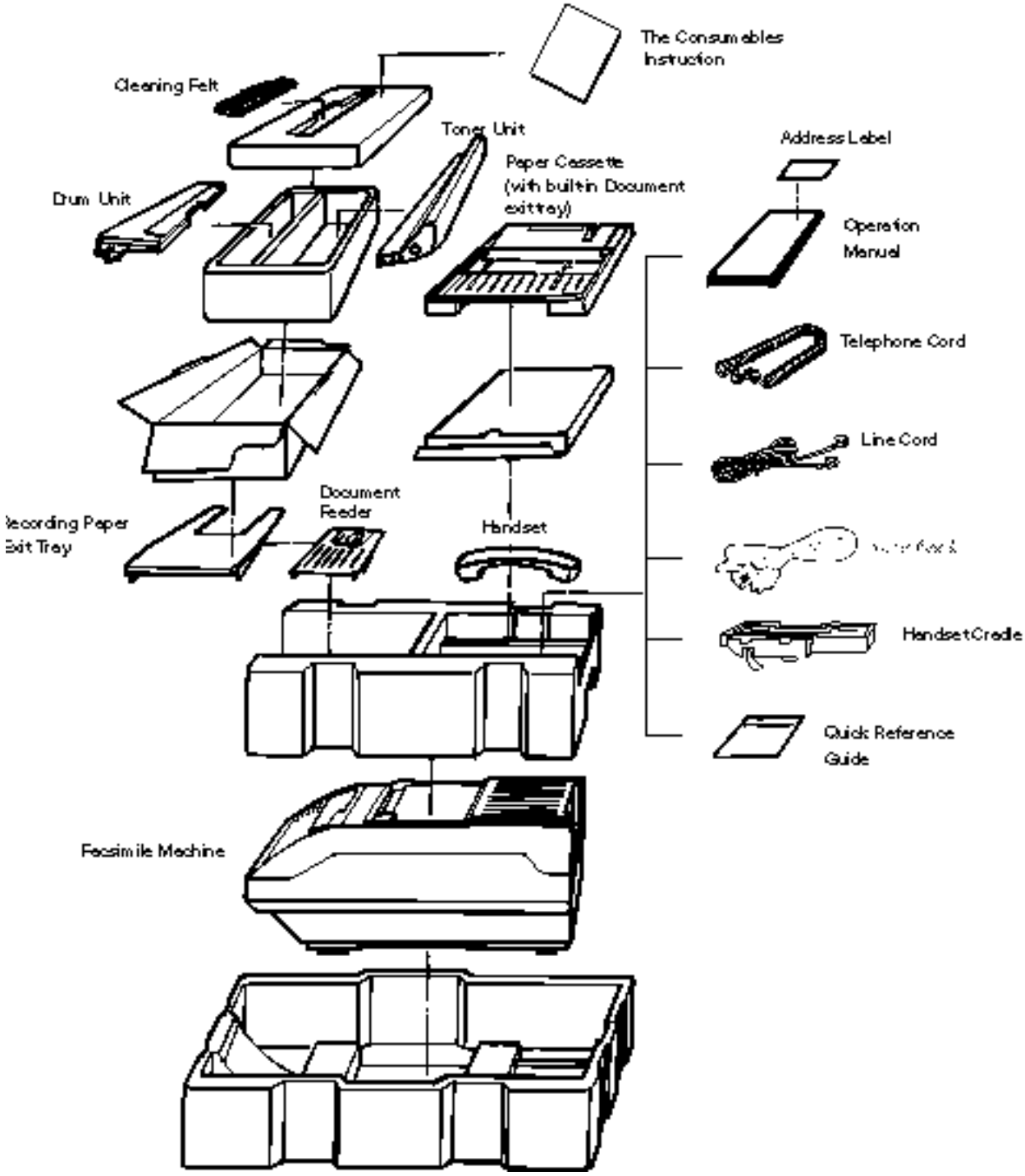
2.1 INSTALLATION PROCEDURE

Please install the machine according to the following flow chart.



2.2 UNPACKING

Open the carton and remove the fax machine and accessories. Check the contents to see if anything is damaged or missing in reference to the figure below.



2.3 Installation

Choose a proper location for the fax machine, then install the machine according to the following description.

2.3.1 INSTALLATION LOCATION

Please do not install your facsimile machine where there is a danger of:

1. Overheating

   - Allow at least 10 Inches clearance from the top and the side of your unit.
   - DO not Install your unit In direct sunlight.

2. Improper Ventilation

   - Do not block the ventilation openings or the exhaust fan.

3. Others

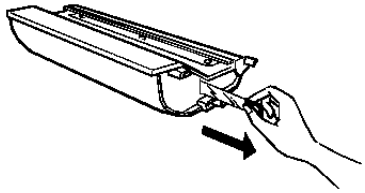
   - Do not place it in airtight room.
   - Do not place it where water or chemical splashes may occur.
   - Do not place it near an air conditioner, or in a dusty enviroment.
   - Keep your fax unit on a level, vibration-free surface.

Note: Protect your unit from excessive neat and humidity. Use it in a normal room temperature (10°C - 30°C, 30 % - 80 % RH)

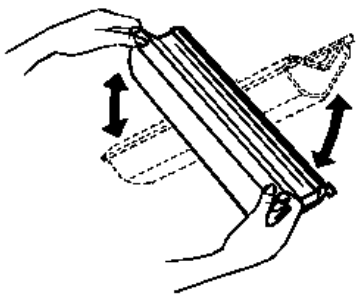
2.3.2 INSTALLATION OF THE TONER CARTRIDGE

1. Take the toner cartridge out of its protective bag, and remove the shield cover. Remove the green shield cover from the toner unit.

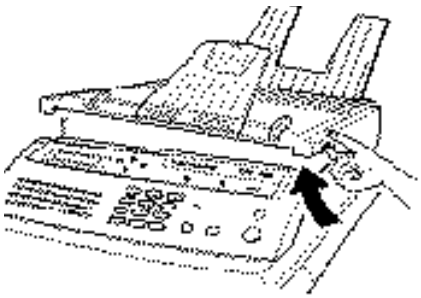
2. Remove the sealing tape at the side of the toner unit by pulling it straight out. Be careful not to tear it off.



3. Hold the toner cartridge in both hands with the green tabs on the top of the unit Rotate the cartridge several times gently from side to side to distribute the toner inside the unit evenly.

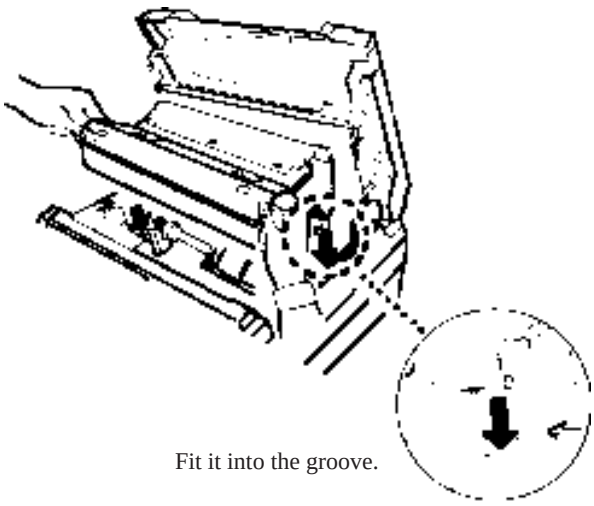


4. Open the top cover by lifting up the cover release lever.



Lift it up

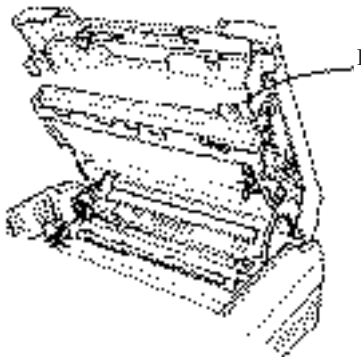
5. Holding the cartridge in both hands, fit the two tabs on the bottom of the cartridge into the grooves (marked by green label) on both sides of the compartment, and slide it down into your fax machine.



Fit it into the groove.

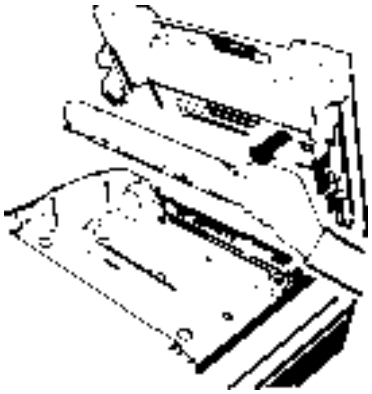
2.3.3 INSTALLATION OF THE FUSER FELT

1. Take the fuser felt out of its protective bag.2. Grasp the tab as shown and pull it towards you.

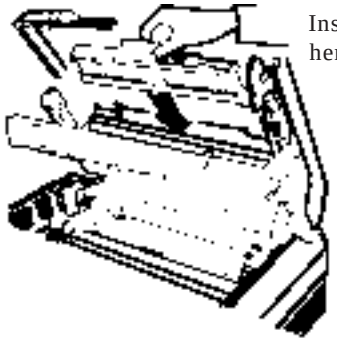


Fit it down.

3. Holding the handle of the fuser felt, insert it into the slot indicated by the green arrows.



4. Slide it down until it snaps in place.



2.3.4 INSTALLATION OF THE DRUM CARTRIDGE

The drum cartridge is photosensitive. Exposing it to light may damage the drum and result in poor print quality. Do not open the drum cartridge's protective bag until you have read the following instructions and are ready to install the drum.

Warning !

Do not expose the drum cartridge to direct room light or sunlight for more than a few minutes.

Do not place the drum cartridge near a window or in an area subject to high heat (above 50°C) or high humidity (above 80% RH).

Do not touch the drum surface. Lift the drum cartridge by the handle only.

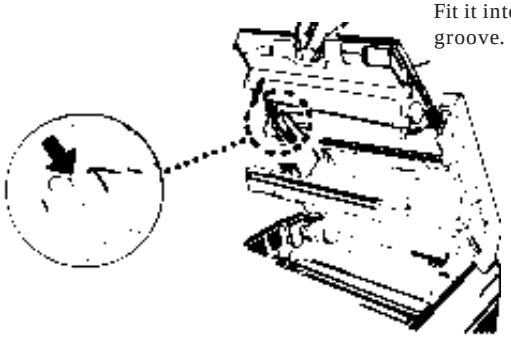
Keep the drum cartridge away from dust and dirt.

---

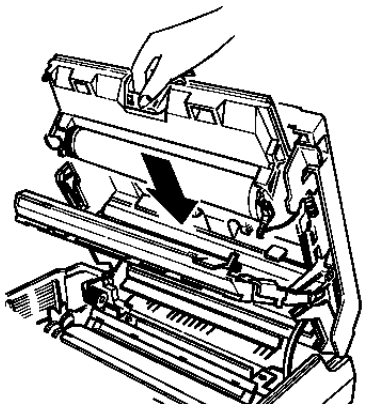
1. Take the drum cartridge out of its protective bag.

2. Lower the tap cover half-way. It makes the cartridge easier to install.

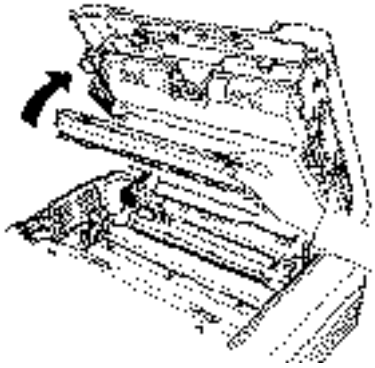
3. Holding the handle of the drum cartridge, fit the narrow tabs at both ends of the cartridge in the grooves indicated by green bar.



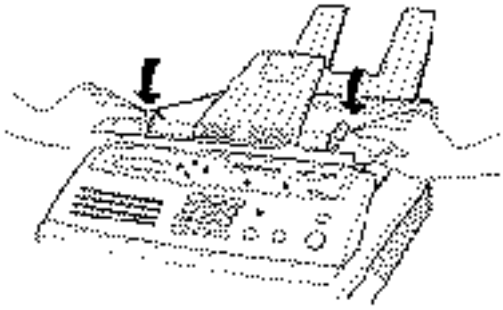
Carefully slide It down until it locks into place.



4. Close the holder.



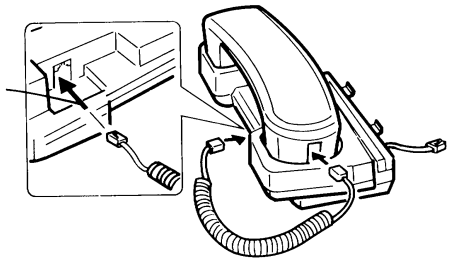
5. Close the top cover. Press firmly to be sure both sides of the cover are securely



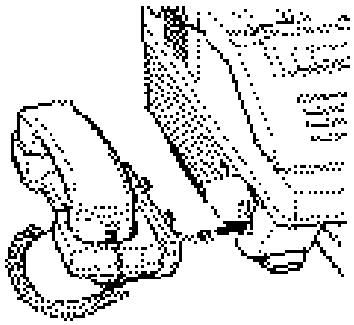
Note: Whenever you install a new developer, you should perform the toner cartridge initialization. see "Initializing a New Toner Cartridge".

2.3.5 INSTALLATION OF THE HANDSET AND HANDSET CRADLE

1. Plug one end of the coiled cord into the handset. Then, plug the other end into the modular jack on the bottom of the handset cradle.

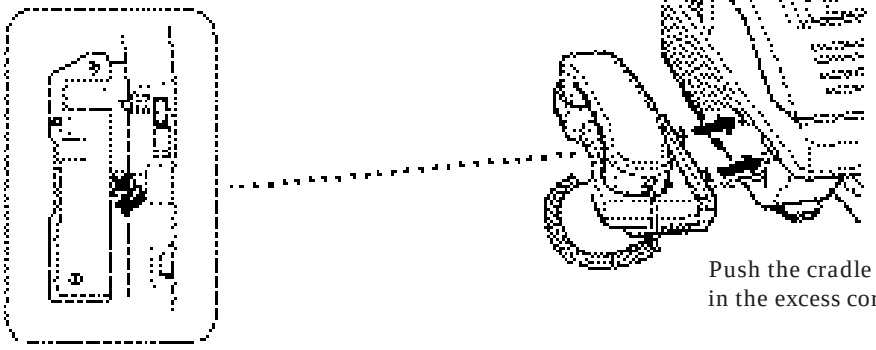


2. Plug the cradle's modular cord into the modular jack on the left side of your fax machine.



3. With the cradle held at a slightly downward angle, insert the two tabs on it into the slots on the left side of your unit and lower the cradle.

If you want to remove the cradle, lift the front of the unit and release the hooked tab on the bottom of the cradle from the unit before you release the upper two tabs on the cradle



Push the cradle in while feeding in the excess cord.

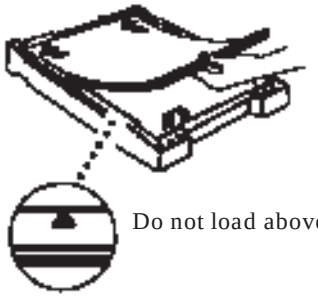
2.3.6 INSTALLATION OF THE PAPER CASSETTE

Msys5600/5700 come with a paper cassette that holds up to 250 sheets of letter-size paper, and the Msys5700 holds up to 500 sheets of letter-size paper.

1. To load the paper into the cassette, remove the cassette cover. Then, press down the metal plate in the cassette.

2. Fan the paper to separate the sheets and load it in the cassette with the side to be printed facing up.

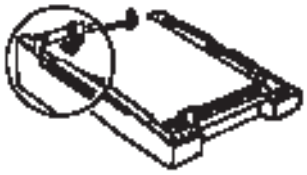
   Make sure that the stack of paper does not exceed the limit mark on the side of the cassette. Too much paper can cause paper jams.



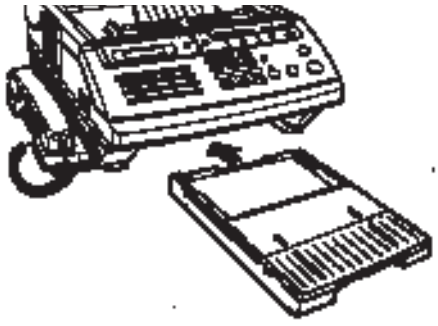
3. Gently press the upper corners of the paper down under the cassette tabs.

   Make sure that the paper stack stays beneath the tabs.

4. Replace the cassette cover by inserting hinge pins on the cover into the slots on the cassette, then lowering the cover.



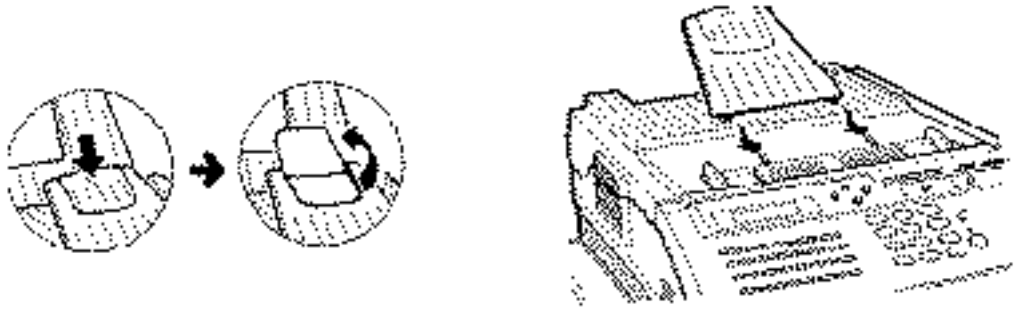
5. Insert the cassette into the port on the front of the machine until it stops.



Note: Do not use creased, folded, wrinkled, or damp sheets of paper.

2.3.7 INSTALLATION OF THE DOCUMENT FEEDER TRAY

Insert two tabs on the document tray into the slots at the top of your fax machine.

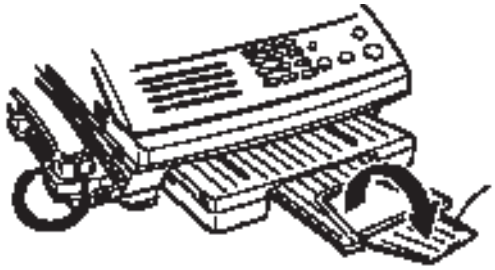


2.3.8 INSTALLATION OF THE DOCUMENT EXIT TRAY

The document exit tray is built in the cover of the cassette.

Pull out the document exit tray from the cassette cover.

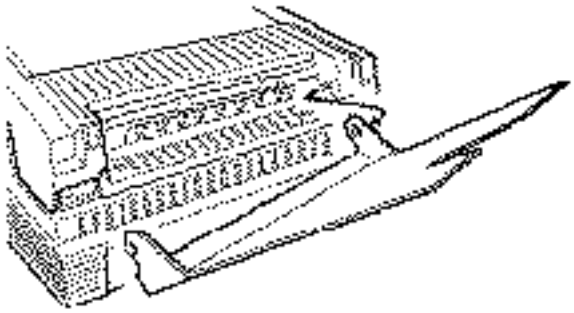
Fold out an extension tray as shown.



Note: When you do not copy or send documents, you can fold it back and slide into the cassette cover anytime.

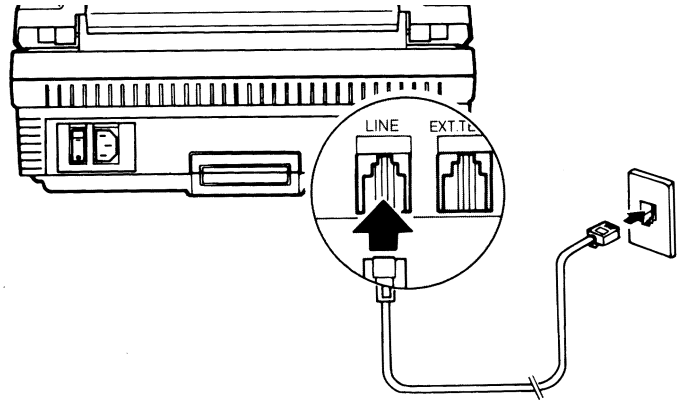
2.3.9 INSTALLATION OF THE RECORDING PAPER TRAY

Insert the two tabs on the paper tray into the slots at the upper back of your fax machine so that the raised bumps on the tabs engage into place.



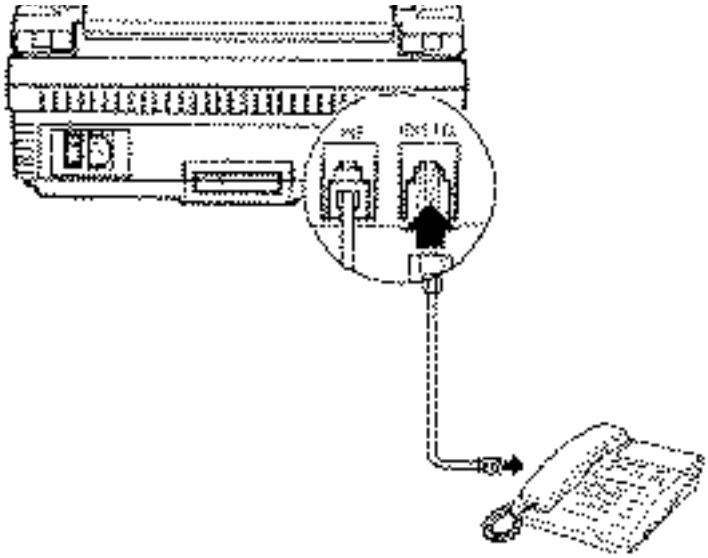
2.3.10 CONNECTING THE PHONE LINE

Plug one end of the line cord into the LINE jack on the machine and the other end into a standard telephone wall jack.



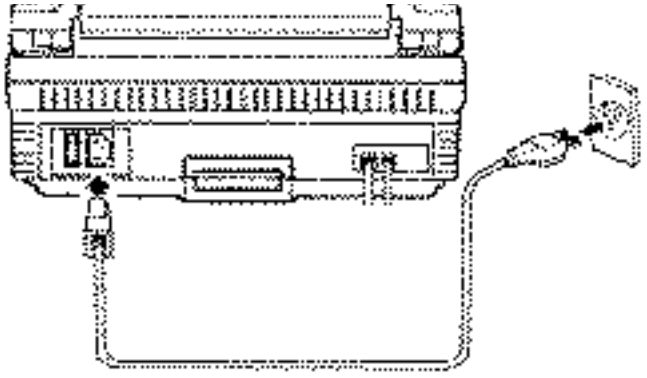
2.3.11 CONNECTING AN EXTENSION TELEPHONE OR ANSWERING MACHINE

Plug one end of the modular cord into the EXT.TEL jack on the rear of your machine. Plug the other end of the cord into a modular jack on a telephone answering device or a regular telephone if you wish to use it as an extension.



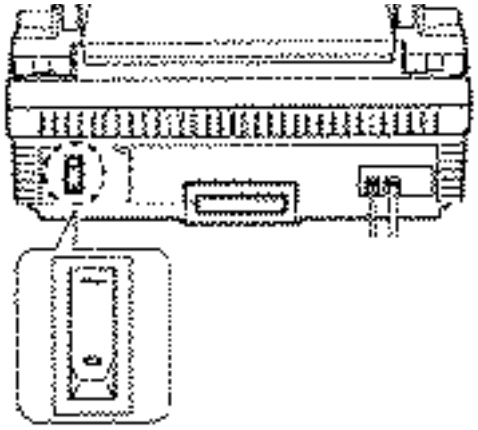
2.3.12 CONNECTING THE POWER CORD

Plug the female and of the power cord into the receptacle on the rear of the fax machine. Plug the other end into a standard AC outlet.



2.3.13 TURNING ON THE POWER

Press the power switch to the up (—) position to turn the power on.



When the fax machine is first powered on, all of the indicators will light and, through the LCD window, your fax machine will prompt you to wait until the fax machine warms up.

When time and date appears on the window, you can set up the fax machine. This mode is called the "standby mode."

Pick up the handset and hear a dial tone to be sure the fax machine is properly connected.

Notes:
- When the machine is ready to operate, the user must set current time & date and terminal ID according to the description in the operating and Installation Manual.
- The fax machine will always set itself to the automatic reception mode (FAX MODE) each time the machine is powered up. To change the receiving mode, press RCV. MODE. For more information on the receiving mode, see the operating and installation m manual.

2.3.14 MOUNTING OF THE ADDRESS LABEL

The address label paper is used to make a note of the number when the user stores numbers into one-touch dialing stations. It will remind the user of what telephone number is stored in each position.

Write information on the label, peel it off, then attach it to the proper position over the corresponding one-touch key as shown below.

2.3.15 INITIALIZE NEW TONER UNIT

Whenever installing a new toner unit, you must perform the following procedure before operating the fax machine.

1 Press **FUNCTION**, then **7**.

```
RINGER,TONER OR
SYSTEM SETUP?Y/N
```

2 Press **YES**.

```
ADJUST RINGER
 VOLUME ?    Y/N
```

3 Press **NO**.

```
NEW TONER UNIT ?
             Y/N
```

4 Press **YES**.

```
ARE YOU SURE ?
             Y/N
```

5 Press **YES** when you are sure that you are ready to initialize the toner.

Your fax machine will initialize the new toner unit for a few minutes. The fax machine is ready for use when the date and time is displayed.

```
NEW TONER UNIT
INITIALIZING...
```

Note: *An image quality may be poor when the new drum prints the first 15 sheets; after that, the image quality will stabilize.*

2.3.16 ADJUSTING RINGER VOLUME

You can adjust the volume of the ringer to the desired loudness, if necessary.

1 Press **FUNCTION**, then **7**.

```
RINGER.TONER OR
SYSTEM SETUP?Y/N
```

2 Press **YES**.

```
ADJUST RINGER
 VOLUME ?    Y/N
```

3 Press **YES**.

```
RINGER VOLUME
>>>>>>>>>>
```

4 The machine displays the current volume scale.

Use **SCROLL ¤** to increase the volume, or **SCROLL ˆ** to decrease the volume.

Each time you press **SCROLL ¤** or **SCROLL ˆ** , the machine sounds a ring in the loudness you selected.

```
RINGER VOLUME
>>>>>
```

5 Press **YES** when a proper volume has been selected. The fax machine return to the standby mode. If you want to cancel the volume setting, press **STOP**.

2.4 MEMORY CLEAR

During installation, clear all memory before setting the system data. This sets all function settings to their initial factory default settings.

1. Press **FUNCTION, #, 1, 9, 3, 4** to initiate the tech mode.
   In tech-mode, the LCD display shows TECH MODE on the second row of the LCD to indicate that the machine is operating in the technician mode. The machine will still perform all normal operations while in this mode.

   You must turn the power Off, then turn it on, or press the keys **FUNCTION, #, 1, 9, 3, 4** in sequence again to return from the tech-mode to the user-mode.

2. Press **FUNCTION**, and **7**.

3. Press **YES**.

4. Press **YES** again to confirm it.

5. The fax machine clears all memory, then returns to the standby mode.

2.5 SYSTEM DATA SET-UP

There are system data settings that are set by the user in the user-mode, and system data settings set by the technician in the tech-mode. Before you change the parameter, print the system data list to see the current setting.

2.5.1 SYSTEM DATA SETTINGS IN USER-MODE

Your fax machine has various user-selectable functions. These functions are usually selected during the initial setup of the machine, and there should be little need to change them thereafter.

Note: *Before you begin, print out the system data list to see the current settings.*

1 Press **FUNCTION, 0, YES**, then **NO** twice, in sequence.

```
SET SYSTEM DATA?
              Y/N
```

2 Press **YES**.

```
TO SKIP TO NEXT
 PRESS SCROLL V
```

The fax machine will show you the user-selectable functions. Press **YES** or **NO**, or enter the desired number to select proper setting. If you do not wish to change the option shown in the display, press **SCROLL** to skip to the next menu.

Print Confirmation Report

```
PRINT MESSAGE
CONFIRMATION?(N)
```

The currently selected settings are shown within the parenthesis in the display.

You can set the fax machine to automatically print out a Message Confirmation report every time you send a document. The report shows whether the transmission was successful or not, how many pages were sent, etc.

Press **YES** if you want the report printed out after every document you send.

Press **NO** if you do not want the Message Confirmation report.

Print Journal Report

```
AUTO PRINT
 JOURNAL ?   (Y)
```

You fax machine keeps records of communications. You can get a transmission or reception journal printout manually or automatically.

Press **YES** if you want the communication (send and receive) journal printed out automatically after every 50 transmissions and receptions.

Press **NO** if you do not want the journal printed out automatically. To print out the journal manually.

Remote Receive Code
(Used with Extension Telephone)

```
REMOTE RCV CODE?
 [0-9]>    (*2*)
```

If you use an extension telephone which is connected to the fax machine, you can control the fax machine to begin receiving a fax by entering a remote receive code on the extension telephone.

The code is made up of * **2** *. The first and the last * are fixed, but you can change the middle digit from 0 to 9. Enter the desired number, then press **YES**.

```
SILENCE DETECT.
TIME?(UNLIMIT:N)
```

Silence Detection Time
(Used in ANS/FAX mode only)

In ANS/FAX mode, after a call is picked up by the answering machine, your fax machine monitors the line.

When your fax machine detects a certain time period of silence or that the line has been released by the answering machine, the call will be treated as a fax message and your machine can begin to receive a fax.

You can limit the silence detection time to 12 seconds or select unlimited time.

Press **YES** if you want to limit the time to 12 seconds.

Press **NO** if you want to select unlimited silence detection time.

Automatic Turnaround Polling

```
AUTO TURNAROUND
 POLLING ?   (N)
```

You can set your fax machine to turnaround poll another machine.

Press **YES** to poll a remote machine every time you send documents to the remote machine.

Press **NO** if you do not want turnaround polling.

```
TURNAROUND
 POLL CODE=0000
```

If you have selected turnaround polling in Step 7, the fax machine prompts you to enter a 4-digit turnaround poll code. This code is required to access a remote fax machine secured with a poll code.

Power Save Mode

```
POWER SAVE MODE?
             (N)
```

If you want to set your machine to power save mode, press **YES**.

This setting allows your fax machine to shut off the machine's printer heater automatically after a document is printed, and to conserve electricity and reduce your utility bills. The fax machine automatically turns on the printer again when it receives a document or is instructed to make a copy. In the power save mode, it takes the machine a little longer to print out fax messages or copies, because it must first re-heat the printer.

If you press **NO**, the machine's printer heater remains on all the time so the machine can start printing copies sooner.

If you want to set the time duration that the machine activates the power save mode, press **YES**. The machine goes to the power save mode from a specified start time to a specified end time every day.

```
SET TIME ?   Y/N
  (17:00→09:00)
```

If not, press **NO**. The machine activates the power save mode all the time.

The machine displays the currently selected start time at which the fax machine goes to the power save mode.

```
SAVE START TIME
     1700
```

Enter the desired start time using the dial keypad. Use 24-hour format to select time (Military time).

When the time appears correctly in the display, press **YES**.

The machine displays the currently selected end time at which the fax machine exits from the power save mode.

```
SAVE END TIME
     0900
```

Enter the desired end time using the dial keypad. Use 24-hour format to select time (Military time).

When the time appears correctly in the display, press **YES.**

Dial Mode

```
DIAL MODE?(TONE)
 TONE:Y PULSE:N
```

Select the type of dial mode your fax machine is connected to.
Press **YES** if the fax machine is connected to a tone dial telephone line.

Press **NO** if the fax machine is connected to a pulse dial telephone line.

Security Communication (For Msys5700 Only)

The feature allows your fax machine to send and receive documents only to and from predetermined locations where fax machines have the security code that matches your security code.

```
SECURITY COMM. ?
             (N)
```

Press **YES** if you want your fax machine to send or receive documents in the security communication mode.

Press **NO** if you want normal communication mode.

```
SECURITY
 CODE = 0000
```

If you have selected Security Communication in Step 14, the fax machine prompts you to enter a 4-digit security code.

The code is used to identify participating stations as members of the closed network. This ensures only authorized parties can communicate with your machine.

When the code appears correctly in the display, press **YES**.

Error Correction Mode

ECM ENABLE ?
(Y)

Error Correction Mode (ECM) compensates for poor line quality and ensures accurate, error-free transmission with any other ECM-equipped facsimile machine. If the line quality is poor, transmission time may be increased when ECM is enabled.

Press **YES** to enable ECM.

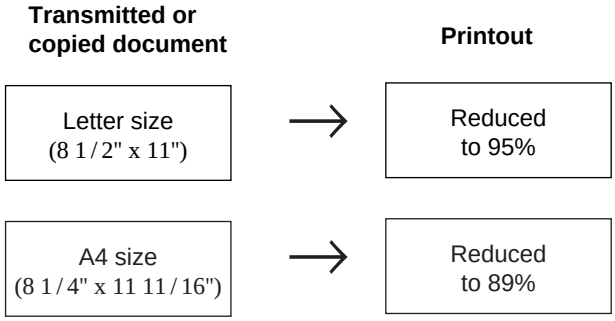
AUTO REDUCTION ?
(Y)

Press **NO** to disable ECM.

Automatic Reduction

When receiving or copying a document as long as or longer than the paper installed into your fax machine, the fax machine can reduce the data of the document to fit on a standard A4 (8.5” x 11”) size paper. The rate of the reduction is as follows:

SET DISCARD SIZE
[00 30]> (25)



If the fax machine can not reduce the data to fit on one page with the feature enabled, the data is divided and printed out in actual size on two sheets or more if needed.

Press **YES** if you want to reduce the incoming page that may need to be divided into two pages with only a few centimeters on the second page.

Press **NO** if you do not want to reduce the receiving document. The overflowed data will be printed out on a second page.

Automatic Discard

When receiving or copying a document as long as or longer than a standard A4 size paper installed into your fax machine, you can set the fax machine to discard any excess image at the bottom of the page to fit on a standard A4 size page.

If the received page is outside the margin you set, it will be printed on two sheets of paper at the actual size.

If the data is within the margin, and Auto Reduction is turned on, it will be reduced to fit on the appropriate size paper (Discard does not take place). If Auto Reduction is turned OFF or fails, the data within the margin will be discarded.

If the margin is set to 00, a second blank sheet may be printed.

Enter the desired discard size, using the dial keypad, then press **YES**.

SET REDIAL INTER
VAL [0-7]> (3)

Automatic Redial Interval

Your fax machine can automatically redial a remote fax machine if it does not answer the first call or if it was busy.

Enter the number of minutes (from 0 to 7 minutes), using the dial keypad, to wait before redialing the number that was busy on the last try. Then press **YES**.

Note: *If you enter 0, the fax machine will not wait. It will redial the number immediately following the preceding try.*

Automatic Redial Number

SET REDIAL
ATTEMPT[0-7]>(3)

Enter the number of attempts (from 0 to 7 times) to redial the number before giving up. Then press **YES**.

Note: *If you enter 0, the fax machine will not redial at all*

Ring Before Answer

ANSWER ON NO. OF
RINGS [1-7]> (1)

Enter the number of rings (from 1 to 7) your fax machine should wait before it answers an incoming call. Then press **YES**.

If you enter **3**, the fax machine will answer calls on the third ring.

To give you time to manually answer your calls when you are present, set this option for at least four rings.

To return to the standby mode, press **STOP**.

To verify your setting, print the System Data list.

2.5.2 SYSTEM DATA SETTINGS IN TECH-MODE

Various technical features of fax machine are provided with optional parameters. The chart below shows you the features and the optional parameters. set the features to the user's need according to the following procedure.

1 If not in the tech-mode, press **FUNCTION, #, 1, 9, 3, 4** in sequence to initiate the tech-mode.

2 Press **FUNCTION, 0, YES** then **NO** twice, in sequence.

3 Press **YES**.

4 Press **SCROLL** repeatedly until you come to the desired function.

5 When the desired function appears in the display, the technician-selectable parameters are also shown in the display. Press **NO** if you do not want the setting shown in the display. The fax machine will display another parameter you can select one by one each time you press **NO**. Press **YES** when the desired parameter appears in the display.

6 The fax machine will display the next function. To change the parameter, repeat the same procedure above. To return to the standby mode, press **STOP**.

FEATURE	PARAMETER	FUNCTION
Modem Speed	14400 / 1200 9600 / 7200 4800 / 2400 bps	The maximum TX speed can be limited to 14400(Msys5700), 12000(Msys5700), 9600, 7200, 4800 or 2400 bits per second. when the TX speed is set to 9600 or 7200 the RX speed can be any V.29 or V.27ter speed When the TX speed is set to 4800 or 2400, the RX speed can be any V.27ter speed.
Error Rate	6%, 12%	If the error rate exceeds the chosen rate, fall back occurs which will lower the baud rate automatically down to as low as 2400 baud until the error rate is less than the chosen rate.
Tx Level	0 ~ -15 dBm	You can set the level of transmission signal. Typically, Tx level should be under -9 dBm. The level within the range of -9 dBm to -15 dBm is acceptable. Enter the desired value using the dial keypad.
Cable Select	0.0 km, 1.8 km 3.6 km, 7.2 km	With copper wire, lower frequencies are attenuated less than higher frequencies. The longer the cable, the more pronounced the effect. This feature compensates for some loss caused by the cable length.
Receive Sensitivity	HIGH / NORMAL	High sensitivity is between 0 and -40 dBm. Normal sensitivity is between -5 and -43 dBm.

2.6 CONFIRMING SYSTEM DATA SETTINGS

Confirm the system data settings by printing out a system data list.

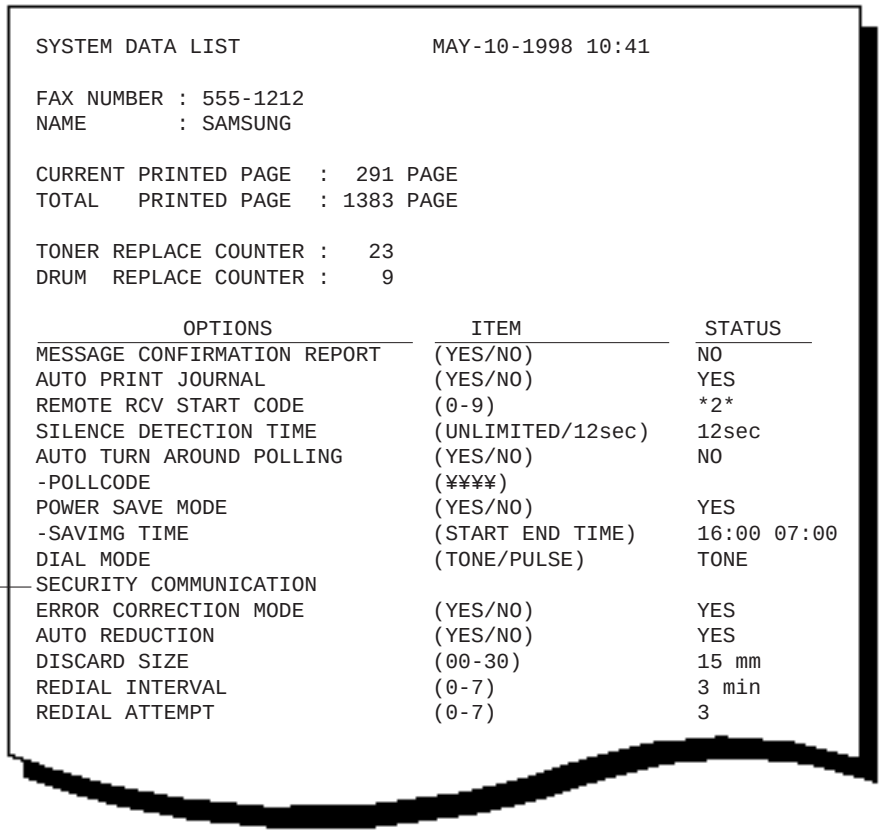
1. Press **FUNCTION**, then **6**.

2. Press **YES**.

3. Press **NO** repeatedly until the fax machine displays "SYSTEM DATA LIST?". Then press **YES**. The fax machine prints the system data list. The system data list printed in the tech-mode (Function, #, 1, 9, 3, 4) contains the system data set in the user mode.

4. To return to the standby mode, press **STOP**.

Sample System Data List



```
SYSTEM DATA LIST              MAY-10-1998 10:41

FAX NUMBER : 555-1212
NAME       : SAMSUNG

CURRENT PRINTED PAGE  :  291 PAGE
TOTAL   PRINTED PAGE  : 1383 PAGE

TONER REPLACE COUNTER :   23
DRUM  REPLACE COUNTER :    9

           OPTIONS              ITEM              STATUS
MESSAGE CONFIRMATION REPORT    (YES/NO)          NO
AUTO PRINT JOURNAL             (YES/NO)          YES
REMOTE RCV START CODE          (0-9)             *2*
SILENCE DETECTION TIME         (UNLIMITED/12sec) 12sec
AUTO TURN AROUND POLLING       (YES/NO)          NO
-POLLCODE                      (¥¥¥¥)
POWER SAVE MODE                (YES/NO)          YES
-SAVIMG TIME                   (START END TIME)  16:00 07:00
DIAL MODE                      (TONE/PULSE)      TONE
SECURITY COMMUNICATION
ERROR CORRECTION MODE          (YES/NO)          YES
AUTO REDUCTION                 (YES/NO)          YES
DISCARD SIZE                   (00-30)           15 mm
REDIAL INTERVAL                (0-7)             3 min
REDIAL ATTEMPT                 (0-7)             3
```

Partts in Msys5700

NOTE:
If the system data list is printed out in tech-mode (Function, #, 1, 9, 3, 4) the model number and software version will be printed at the bottom of the system data list.

CHAPTER 3

Theory of Operation

Chapter 3 THEORY OF OPERATION

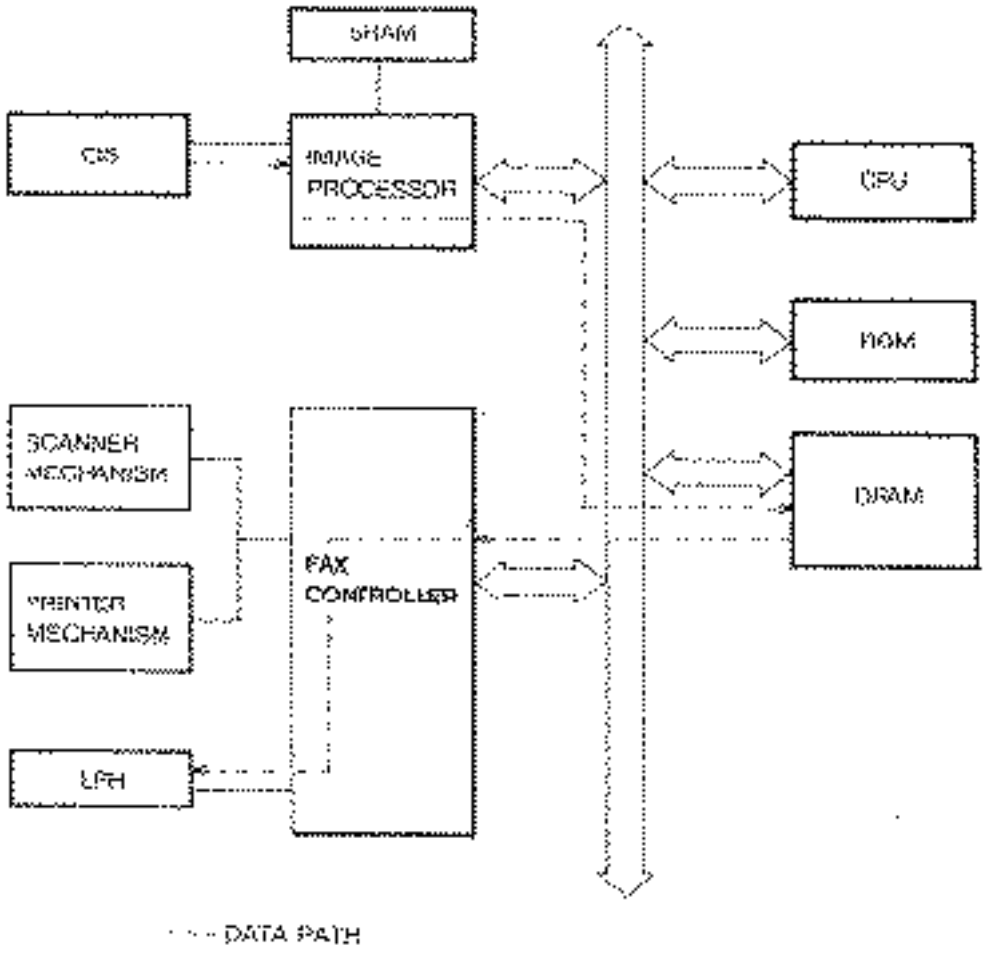
3.1 FUNCTION BLOCK DIAGRAMS

3.1.1 MAIN BLOCK DIAGRAM

3.1.2 COPY OPERATION

When a document is inserted in ADF, the leading edge of the original document is detected by the document detect sensor and the information is transmitted to the Main PBA via micom in OPE PBA to energize the scanner motor and pull the first page into the ADF. The scanner motor will continue to run until the document contacts the scan sensor. Then the scanner motor will stop and LCD will display "DOCUMENT READY". The light and dark of each line is converted to a corresponding electrical voltage by the C19. This signal is fed to the SDIP of the Main PBA as serial data. SDIP carries out the serial data to parallel conversion of the binary image and transfers the image to the page memory area where it is stored.

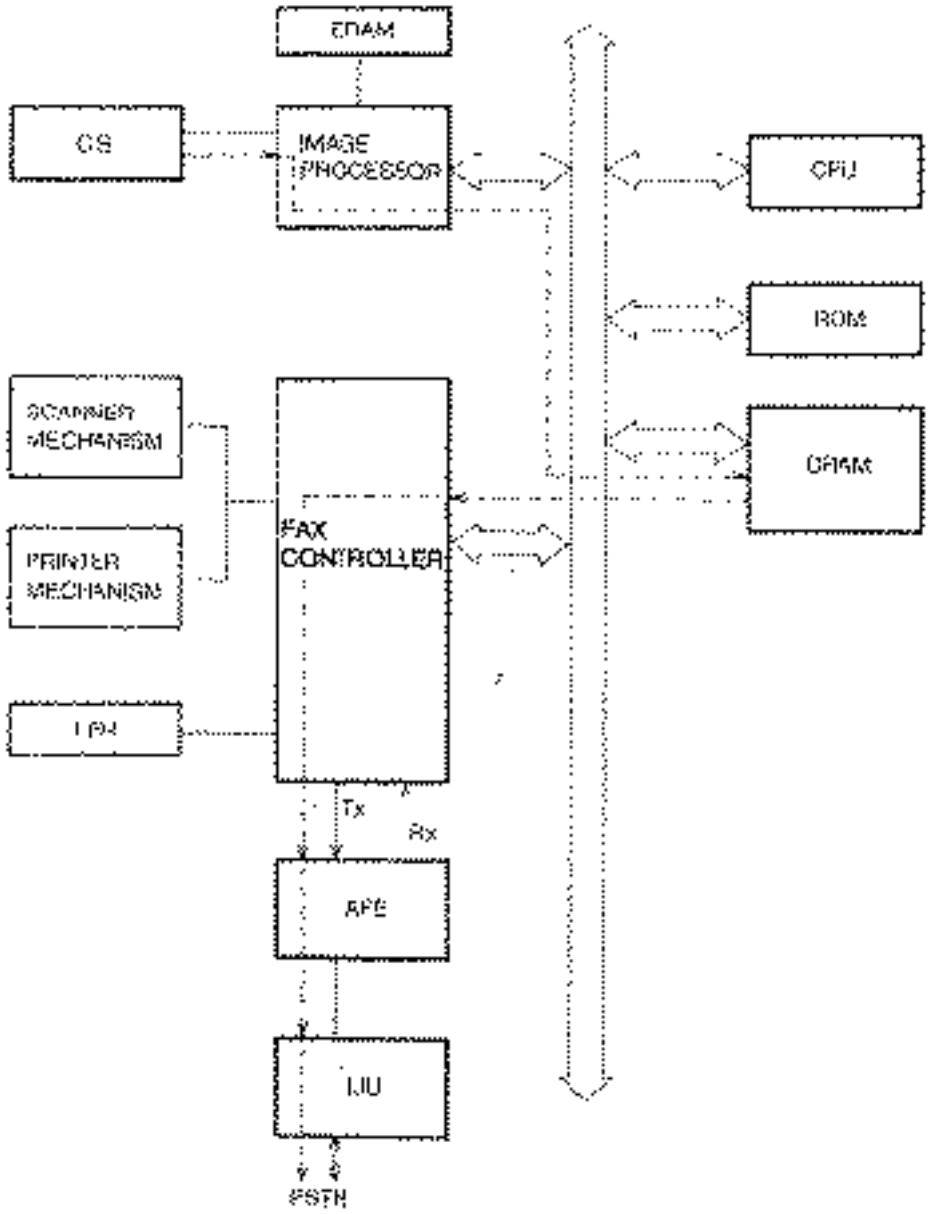
The printing will start after the specified number of pages are stored in page memory. NS32FX200 of the Main PBA transfers the stored data in page memory to the LPH. Parallel to serial conversion of the word formatted data is done in the NS32FX200. The LPH is turned on for each black dot and off for each white dot. This produces a latent image on the charged OPC drum. The latent image on the drum is developed when it passes by the brush of toner cartridge. As the image is rotated further it comes in contact with the plain paper. The image is transferred to the paper by the transfer corona which attracts the toner from the drum to the paper. Next the toner is fused to the paper by means of heat and pressure from the fuser. The copy is then moved to the exit tray.



3.1.3 G3 TRANSMISSION

The CIS picks up one line of image 1728 pels. The signal is then sent to the SDIP for digital processing. This processed data is paralleled out on the data bus and dumped into the T.4 to file buffer (MMR). After the data stored to T.4 to file buffer encodes, it is transfer to file to T.4 buffer (MR, MH, MMR) for transmission.

The NS32FX200 generates a vector interrupt to the CPU to tell it to be ready for transmitting the image data. The NS32FX200 outputs the serial bit stream at sigma delta oversampling rate to the analog transmitter of the AFE. The serial bit stream is fed to a 7 bit D / A converter. This D / A converter is implemented by an analog switch, which selects either + 5V or -5V inputs. These voltages are filtered by an RC low pass filter to filter supply noise. The D / A output is filtered by three pole LPF with unit gain to attenuate the out-of-band quantization noise. The output of the LPF passes to the transformer through a 3 dB gain amplifier.



Transmission Block Diagram

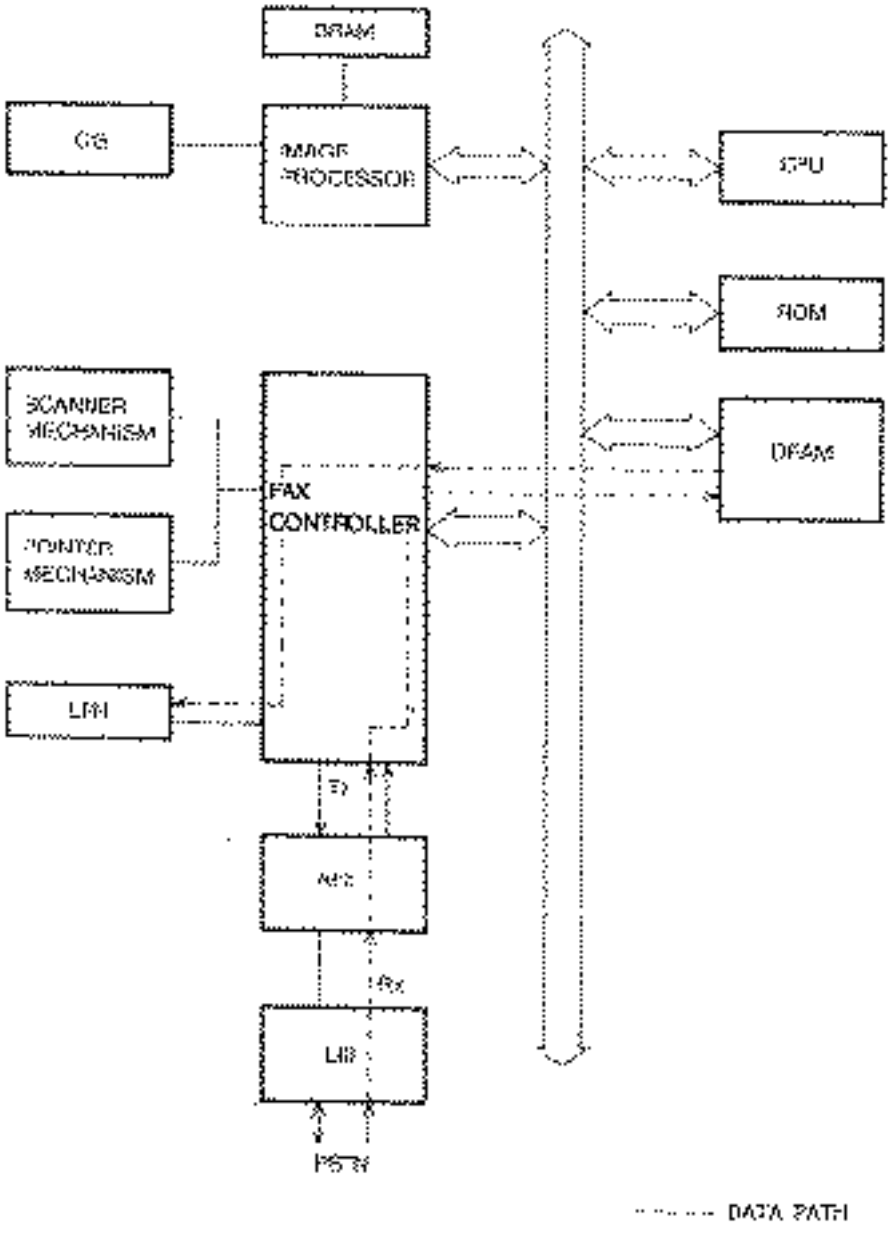
3.1.4 G3 RECEPTION

The reception analog circuit obtains its analog input signal from the transmission. The signal passes through a buffer, amplifier, and then enters the sigma delta second order loop. The amplifier has two gain levels. The -9dB gain is obtained when the training check is passed from the sending machine.

The sigma delta second order loop contains two integrators and a comparator. The comparator output is the SDIN input to the one-chip sigma delta part of the NS32FX200.

SDIN is sampled one-chip at over sampling rate, is passed to the digital filters and returns to SDFDBK pin. This feedback enters a 7 bit D / A converter and passes through the first integrator unit. If the receive FIFO is filled with data, the NS32FX200 generates interrupts to the CPU. The CPU stores the coded data to T.4 to file buffer and converts to the MMR data format.

The MMR data is regenerated to the bit map pixel data, then CPU starts storing this data to the printer buffer. After the storing of one page bit map data is completely finished, this data is sent to the LPH via DMA operation of the NS32FX200.



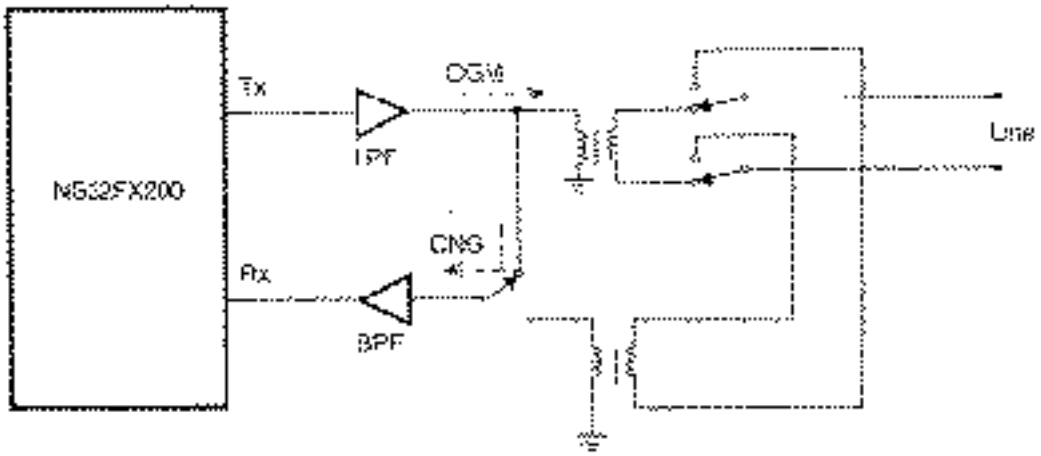
Reception Block Diagram

3.1.5 OGM OPERATION

TEL/FAX MODE AUTO-SWITCHING FUNCTION

It is possible to select a fax reception or a telephone mode automatically by detecting whether the caller is a telephone or fax.

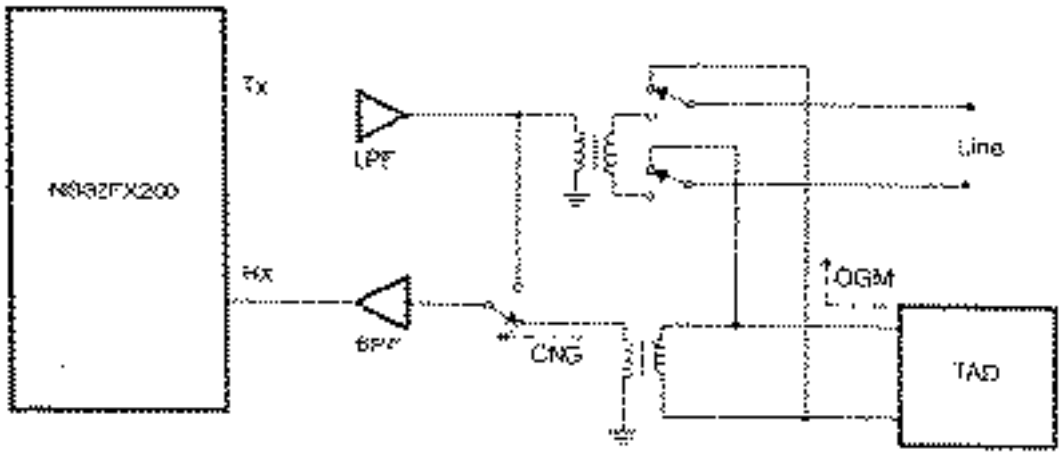
When called, the fax machine switches the CML relay to the fax and starts to send OGM (Out Going Message) and detects the CNG signal at the same time. When 2 sequential CNG signals are detected, the fax machine starts the reception.



ANS/FAX MODE AUTO-SWITCHING FUNCTION

The fax machine has the capability to switch to FAX or TAD which is connected to the fax machine according to the calling terminal. When called, the answering machine (TAD) starts to send OGM (Out Going Message) and the fax machine detects CNG signals or DTMF (default: * 2 *) via transformer (T2) at the same time.

When 2 sequential CNG signals or DTMF are detected, the fax machine starts the reception. If TAD completes to send OGM or does not send OGM, the fax machine detects silence. The silence duration can be selected by the setting option.



3.2 PROTOCOL

3.2.1 PROTOCOL

Group 3 facsimile protocol is a set of rules that governs communication between a fax transmitter and receiver. The signals are transferred using binary coding in a HDLC frame format. The exchange of signals is called handshaking which normally takes place at 300 bps. The protocol sequence consists of five phases as follows:

Phase A: Call set up

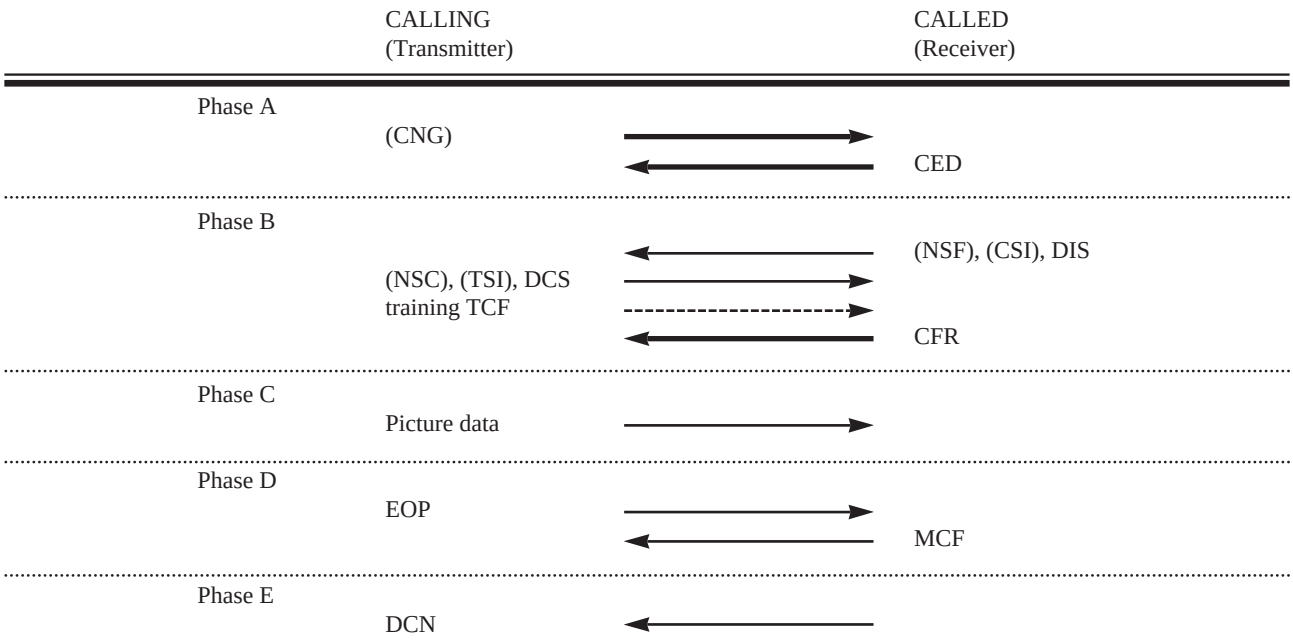
Phase B: Pre-message procedure for identifying and selecting the required facilities.

Phase C: Message transmission (includes phasing and synchronization where appropriate)

Phase D: Post-message procedure including end of message and confirmation and multi-document procedures.

Phase E: Call releases

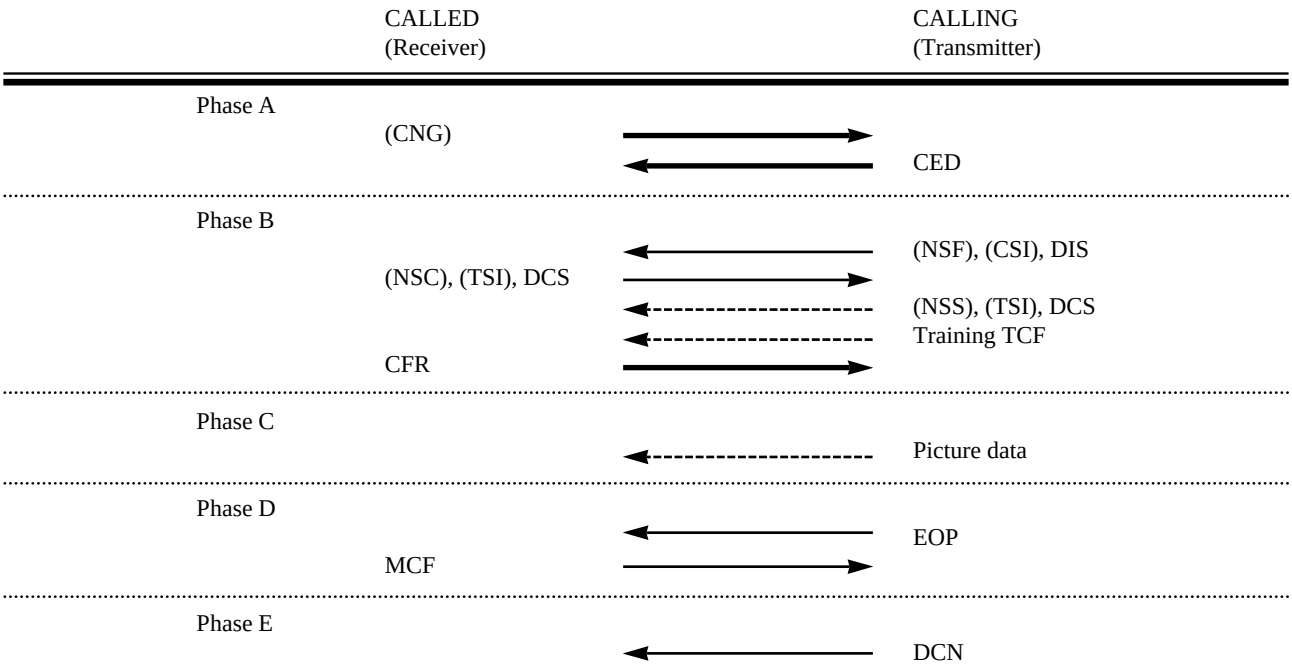
Time sequence of a facsimile call:



The notation used in this diagram are as follows:

- an arrow head indicates the receiver of the signal.
- a solid line indicates transmission of the signal at the data rate of 3CO bps.
- a bold solid line indicates the transmission of tonal signals.
- the dashed line indicates transmission at the message data rate.
- a signal enclosed in parenthesis is optional.

The conditions where the calling station is to receive documents (polling) is shown below.



3.2.2 G3 SIGNALS

TERM	SIGNAL	FUNCTION
CED	2100 HZ	Called station identification
CFR	X010 0001	Confirmation to receive
CRP	X101 1000	Command repeat
CIG	1000 0010	Calling subscriber identification
CNG	1100 Hz on 0.5 sec, Off 3 sec	Calling tone
CSI	0000 0010	Called subscriber identification
CTC	X100 1000	continue to correct
CTR	X010 0011	Response to continue to correct
DCN	X101 1111	Disconnect
DCS	X100 0001	Digital command signal
DIS	0000 0001	Digital identification signal
DTC	1000 0001	Digital transmit command -
EOM	X111 0001	End of message
EOP	X111 0100	End of procedure
EOR	X111 0011	End of retransmission
ERR	X011 1000	Response to end of retransmission
FCD	0110 0000	Facsimile coded data
FCF	—	Facsimile control field
FIF	—	Facsimile information field
FTT	X010 0010	Failure to train
HDLC	—	High leuel data linc. control
MCF	X011 0001	Message confirmation
MPS	X111 0010	Multipage signal
NSC	1000 0100	Nonstandard facilities command
NSF	0000 0100	Nonstandard facilities
NSS	X100 0100	Nonstandard setup
PIN	X011 0100	Procedure interrupt negative
PIP	X011 0101	Procedure interrupt positive
PIS	462 HZ for 3 sec.	Procedure interru~t signal
PPS	X111 1101	Particial page signal
PPR	X011 1101	Particialpage request
PRI-EOM	X111 1001	Procedure interrupt_EOM
PRI-EOP	X111 1100	Procedure interrupt_EOP
PRI-MPS	X111 1010	Procedure interrupt_MPS
RCP	0100 0001	Return to control for partial page
RNR	X011 0111	Receive not ready
RR	X111 0110	Receive ready
RTN	X011 0010	Retrain negative
RTP	X011 0011	Retrain positive
TCF	O for 1.5 sec.	Training check
TSI	X100 0010	Transmittlng subscriber identification

3.3 MODULATION

3.3.1 G3 MODEMS

BITS PER SECOND	BAUD RATE	BITS PER SAMPLE	CARRIER FREOUECNY (Hz)	BANDWIDTH (Hz)	TYPE
14400	2400	6	1800	550 ~ 3050	V.17
12000	2400	5	1800	550 ~ 3050	V.17
9600	2400	4	1700	450 ~ 2950	V.29
7200	2400	3	1700	450 ~ 2950	V.29
4800	1600	3	1800	950 ~ 2650	V.27ter
2400	1200	2	1800	1150 ~ 2450	V.27ter

3.3.2 PHASE MODULATION

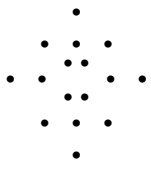
Phase modulation uses different phases of a carrier to encode data. At 4800 bps, the data stream to be transmitted is divided into groups of three consecutive bits (tribits) At 2400 bps, data stream is divided into groups of two bits (dibits).

TRIBIT VAWES			PHASE CHANG
0	0	1	0˚
0	0	0	45˚
0	1	0	90˚
0	1	1	135˚
1	1	1	180˚
1	1	0	225˚
1	0	0	270˚
1	0	1	315˚

DIGIT VALUE	PHASE CHANGE
00	0˚
01	90˚
11	180˚
10	270˚

3.3.3 QUADRATURE AMPLITUDE MODULATION

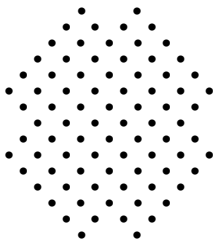
In quadrature amplitude modulation, the first bit is used to determine the signal data amplitude to be transmitted. The rest of the bits are encoded as a phase change relative to the phase of the immediately preceding data. At 9600 bps, the data stream is divided into groups of four consecutive data bits (quadbits). At fallback rate of 7200 bps, the data stream is divided into groups of three consecutive data bits.



V.29

3.3.4 TRELLIS CODED MODULATION

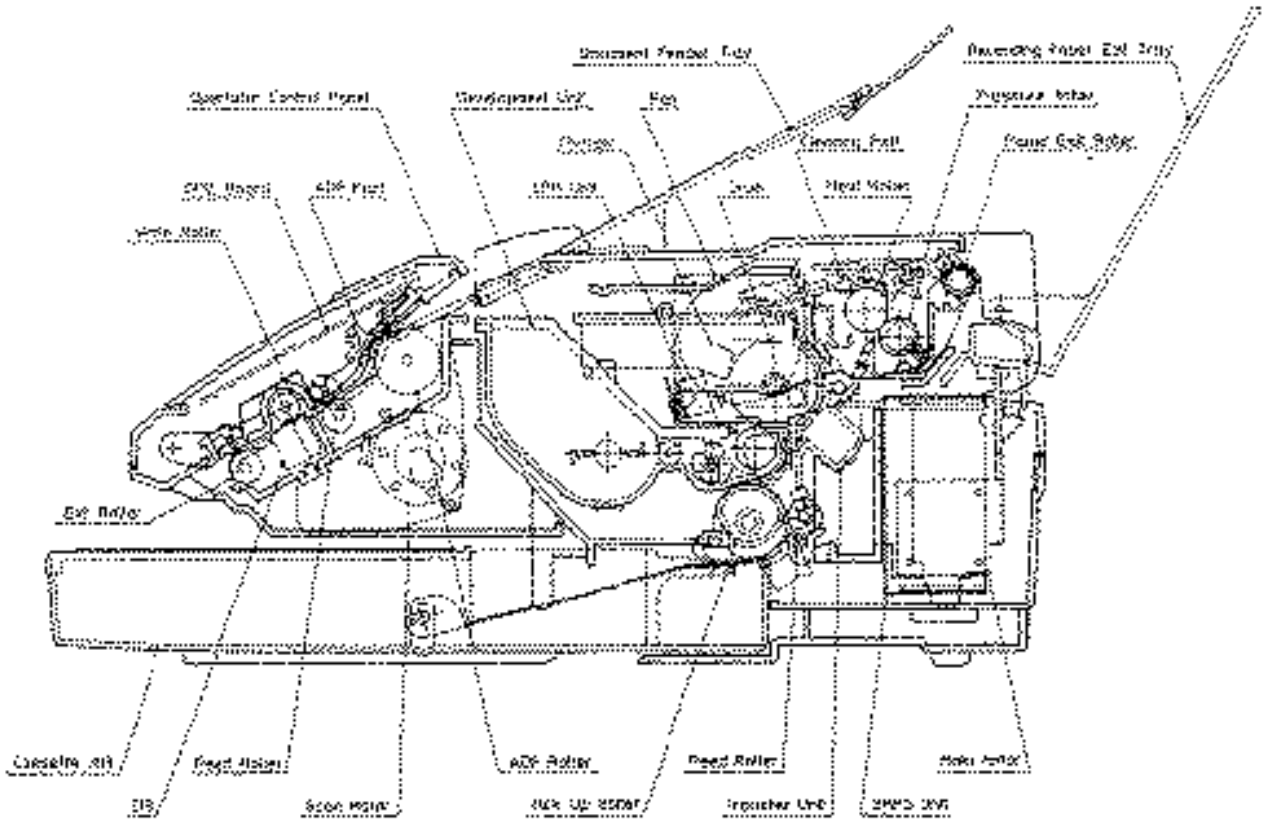
TCM is used for transmitting data at 14400 bps, 12200 bps, 9600 bps and 7200 bps. The words are six consecutive bits for 14400 bps mode and five consecutive bits for 12200 bps mode. When operating in V.17 mode at 14400 bps, the modem samples the scrambled data stream in groups of six data bits plus one redundant bit. The extra bit is for forward error correction using trellis coding.



V.17

3.4 MECHANICAL OPERATION

3.4.1 SECTIONAL VIEW



3.4.2 SCANNER MECHANISM

The scanner mechanism consists of components which feed, scan, and eject the documents that are to be copied or transmitted to a remote facsimile unit. These components and their functions are explained below.

AUTOMATIC DOCUMENT FEEDER (ADF) MECHANISM

The automatic document feeder, consisting of various rollers, ADF rubber pad, springs and belts. It automatically separates and feeds the pages of a document over the scanning area and stacks them on the document exit tray.

Documents containing up to 20 pages can be placed in the automatic document feeder for scanning. The leading edge of the document will move the document detect sensor lever when the operator slides the document stack into the ADF. The scan motor starts to rotate when the document detect senor has detected the leading edge of the document. The ADF roller feeds the first page of the document into the feeder, then moves the page to the scan position.

The scan motor is stopped when the leading edge of the page actuates the document scan sensor.

Multiple pages are prevented from being fed by the ADF rubber pad. A spring provides force that the pad places on the document pages for proper separation.

The scan motor is again turned on when the machine is ready to scan the document and drives the feed roller at a speed that is determined by the resolution selected. The scan motor is stopped after a set period of time after the trailing edge of the page leaves the document scan sensor. If another page is detected as the trailing edge of the page leaves the document scan sensor, the next page will be fed to the scan position. The exit roller pushes the page out onto the exit tray where it is stacked.

CONTACT IMAGE SENSOR

The contact image sensor unit consists of LEDs, rod lens array, and a photosensor. The LEDs illuminates the area of the document to be scanned when the leading edge is detected by the document scan sensor. The LEDs turn off when the document exits the ADF.

The LEDs illuminates the image from the document to the photosensor through the rod lens array, where the image is transferred into voltage levels.

DOCUMENT SENSORS

There are two document sensors in the ADF mechanism the document detect and the document scan sensors. The document detect sensor detects whether or not a document is loaded, and the document scan sensor detects the scan position of the document.

3.4.3 PRINTER MECHANISM

The printer mechanism consists of recording paper feeding unit, LPH (LED Print Head), drum carriage, toner cartridge, transfer unit and the fuser unit.

RECORDING PAPER FEEDING

The paper feeding unit consists of the mech board, RX stepping motor, pick-up clutch, cassette size detecting sensor, recording paper empty sensor, recording paper pick-up sensor, and recording paper exit sensor.
The sheet of plain paper is picked up by the pick-up roller. Multiple sheets are prevented from being picked from the cassette the friction pad. A feed roller will be turned when the pick-up roller is being turned and moves the sheet of paper to an opc drum.

The photosensor on the mother board detects the size of the paper. If no paper is detected by the paper empty sensor, "NO PAPER" will be displayed.

The paper jam sensor detects the sheet of paper when it is picked up by the feed roller. If the paper does not contact the paper jam sensor within a specific time after a solenoid turns on 2 times, PAPER JAM 0 message will be displayed.

LPH (LED Printer Head)

LPH records the image data as a latent image on the opc drum.

DRUM CARTRIDGE

The drum cartridge consists of the opc drum, main corona wire, cleaning blade, and the waste toner box. As the drum rotates, the charge corona applies a specified voltage to the opc drum, and the cleaning blade removes any residue of the toner after printing, and feeds out any unnecessary toner into the waste toner box.

TONER CARTRIDGE

The toner cartridge is composed of the developer unit and the toner unit. The toner in the toner unit is supplied to the developer unit by the AC motor on the main frame. The amount of toner in the developer unit is detected with the toner sensor. The toner in the developer unit is transferred onto the opc drum in order to make a visible image.

TRANSFER UNIT

By applying a voltage of reversed polarity to charge the toner particles to the rear of the recording paper, the toner image on the opc drum is transferred to the recording paper.

FUSER UNIT

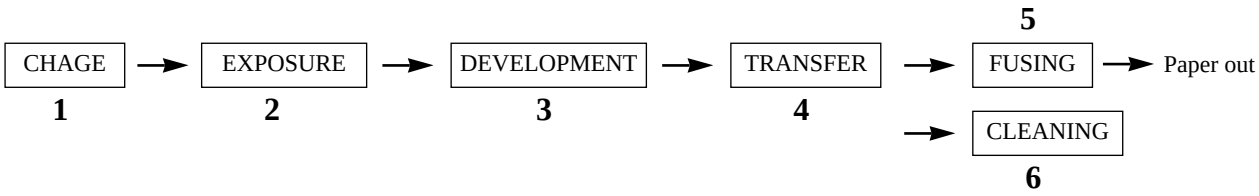
The fuser unit consists of a heat roller, pressure roller, thermistor, thermostat, and paper exit sensor.

A 400W / 120 VAC halogen lamp in the heat roller provides the heat for melting the toner, and the toner image is fixed to the paper by the pressure roller.

A thermistor detects the heating temperature on the heat roller surface and a thermostat cuts AC voltage to the heat lamp when the fuser rises above 410°F (210°C). The paper exit sensor detects when the printed paper has completely moved through the printer. If the paper does not move through the printer in a specified time, the unit displays PAPER JAM 1 or PAPER JAM 2.

3.4.5 DEVELOPMENT PROCESS

The development process converts the photo signal of the LEDs in the LPH into a visible image by the use of toner as follows:



1 The main corona provides a negative potential field to charge the opc drum surface. The grid controls the potential at the drum surface (-580V).

2 In order to form the latent image on the drum surface, LEDs expose the opc drum selectively according to electrical image data. The exposed areas on the drum surface will be discharged to approximately ground potential. The negative charge in the non image areas are not effected. In this way the latent image is formed on the drum surface.

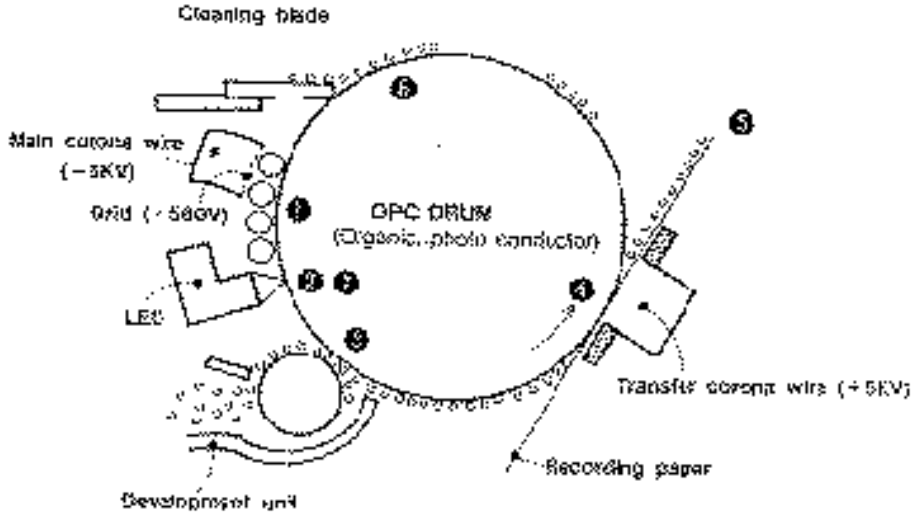
3 The negatively charged toner particles are attracted to the latent image areas of the drum surface. The negatively charged background areas of the drum repel the similarity charged toner particles. In this way, the latent image becomes a visible toner image.

4 The recording paper is fed on the transfer unit in contact with the drum. The positive potential by the transfer corona attracts the negative toner particles to the recording paper.

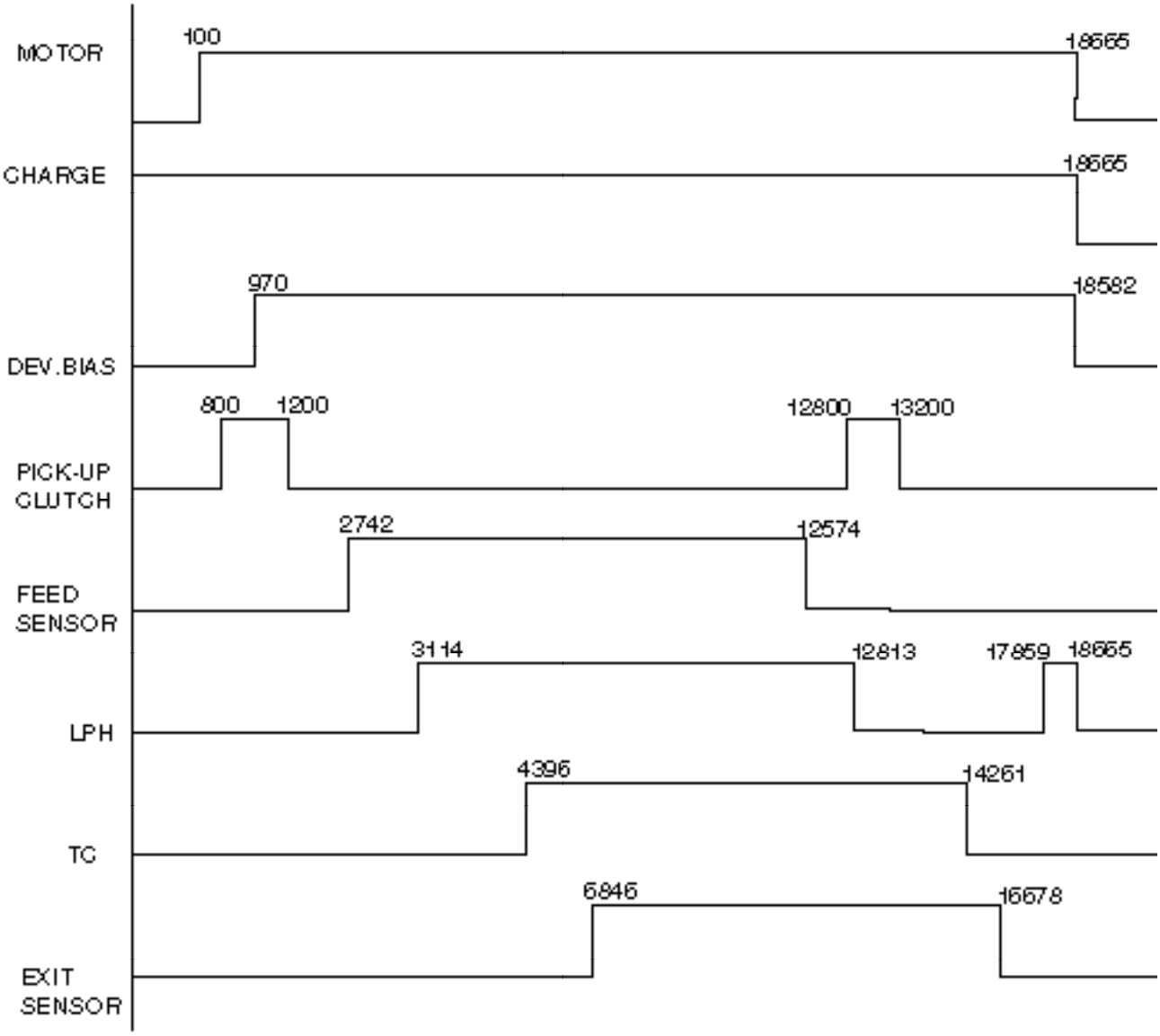
5 The recording paper moves toward heat roller in the fuser unit. The heat roller is heated by the halogen lamp and applies a heat to the paper and toner. The image is fixed by melting the toner with heat and pressure.

6 Any unnecessary toner particles remained on the drum are removed by the cleaning blade and stored at waste toner box in drum cartridge.

7 All negative electric charges remaining on the drum surface are erased by the LEDs and the drum surface is return to the main corona without any electric charges or toner particles



3.4.6 RECORDING TIMING DIAGRAM

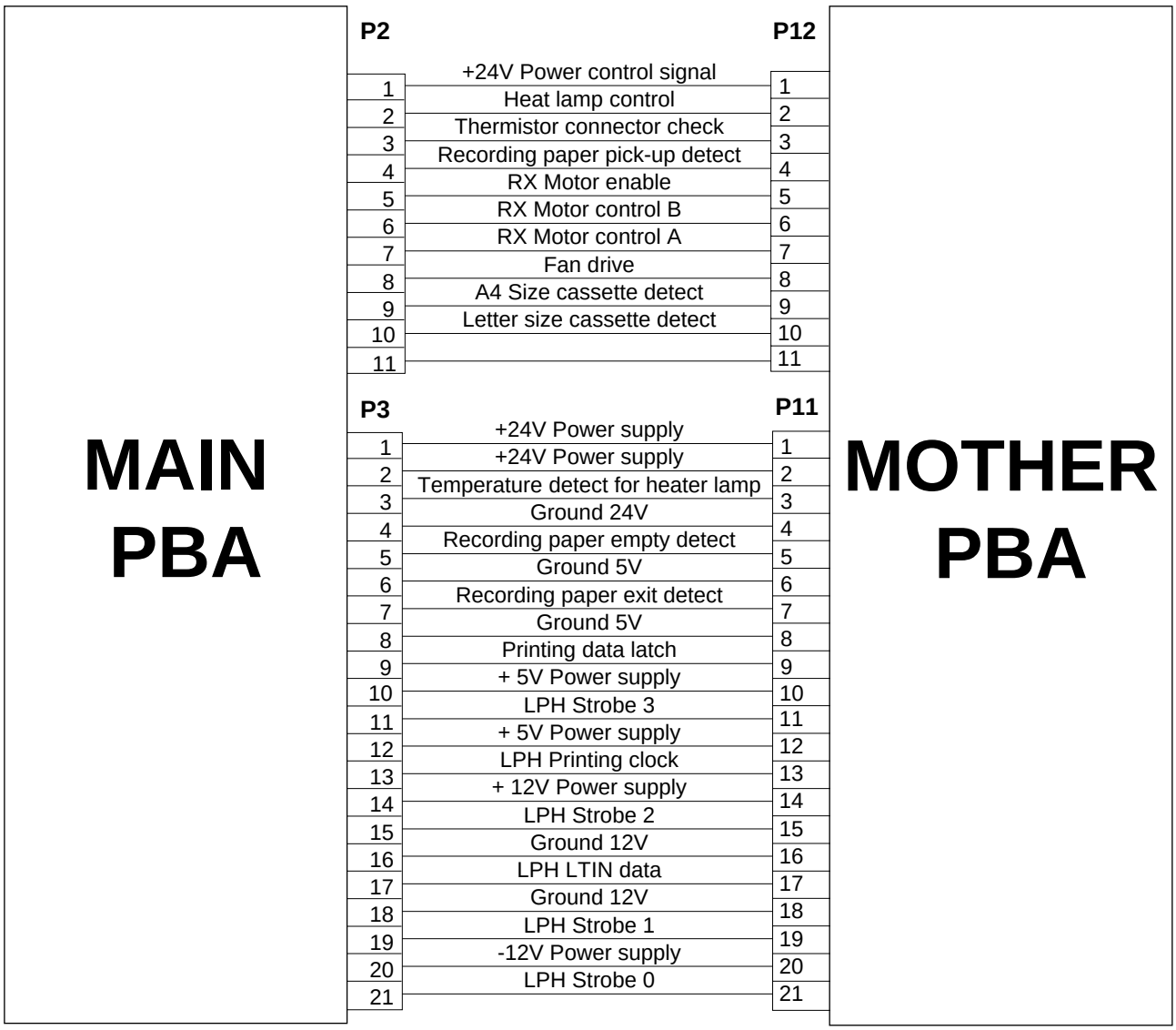


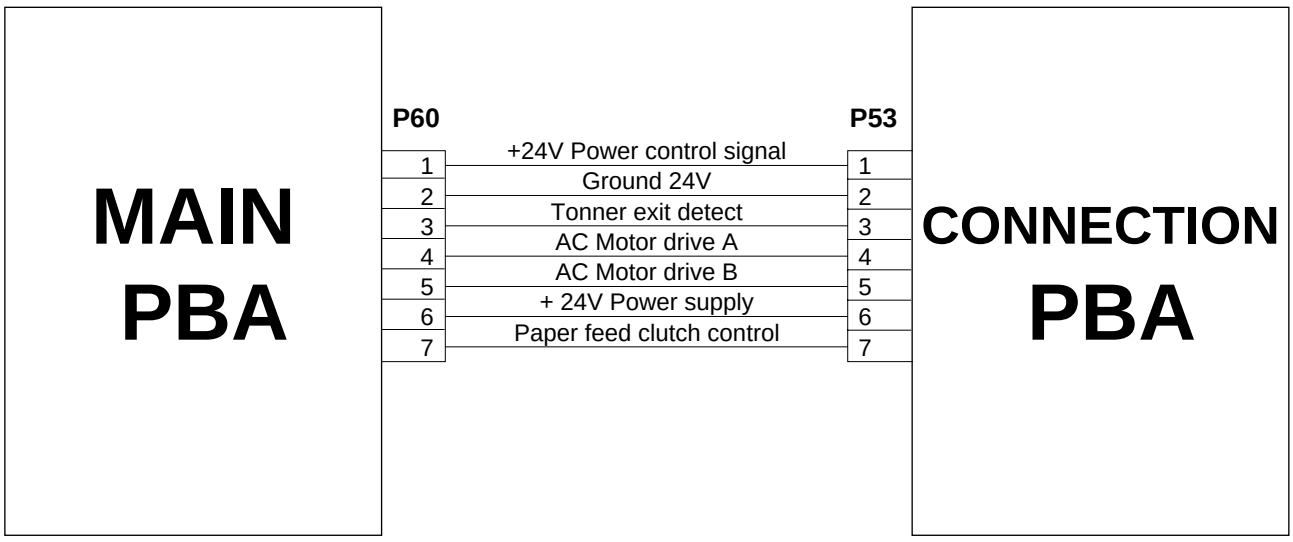
Unit: Millisecond (ms)

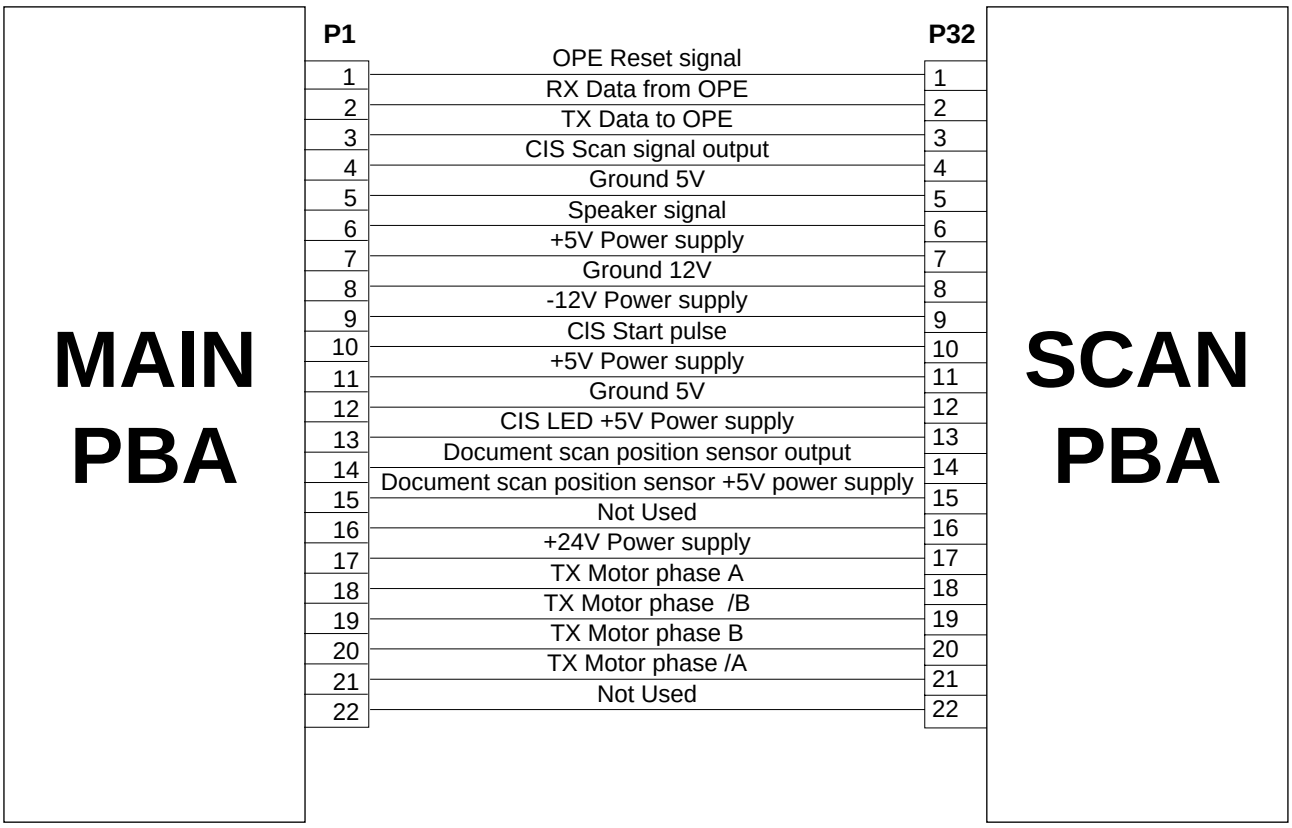
CHAPTER 4
Electrical Description

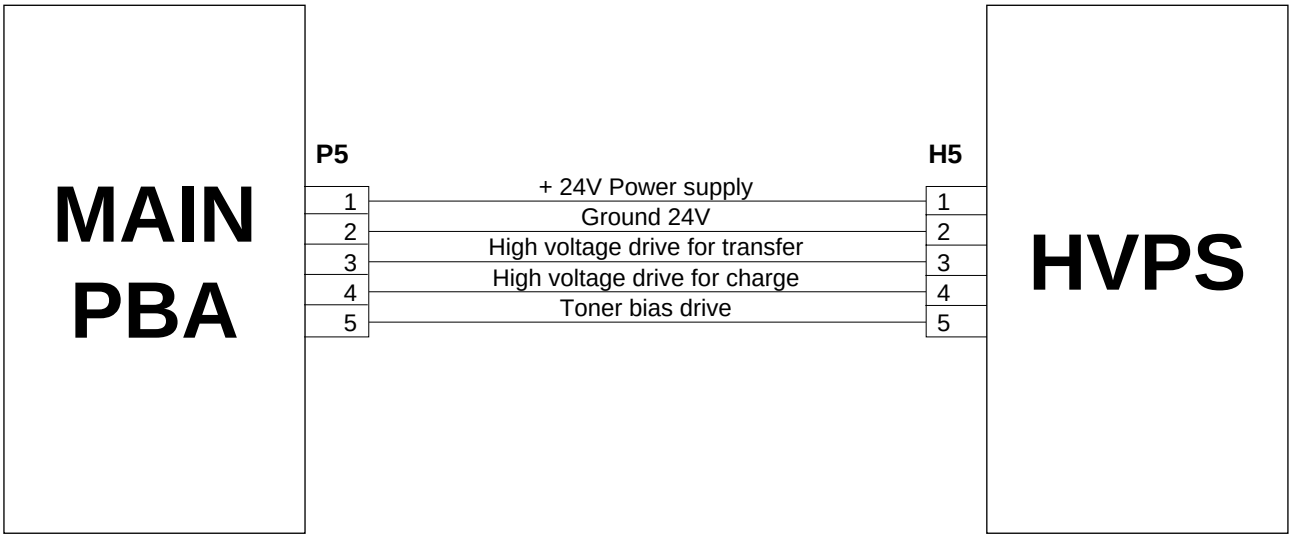
Chapter 4 ELECTRICAL DESCRIPTION

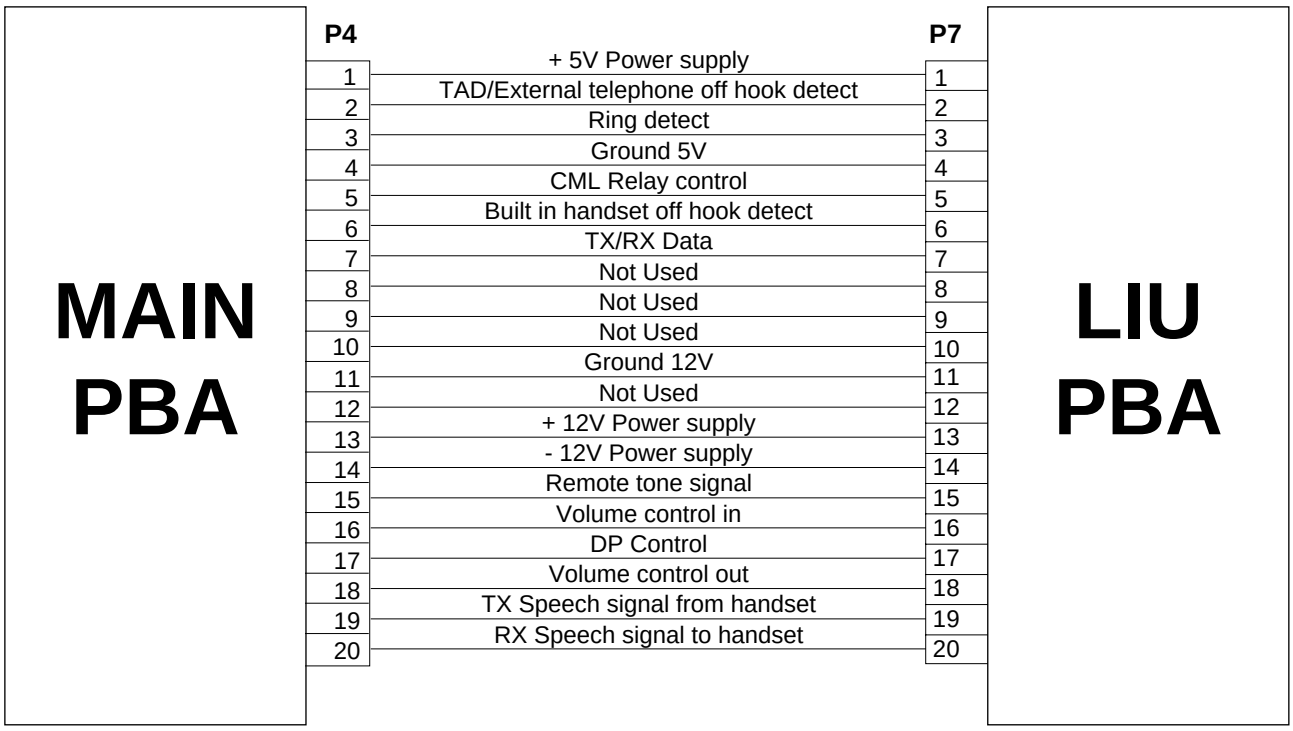
4.1 CONNECTION DIAGRAM

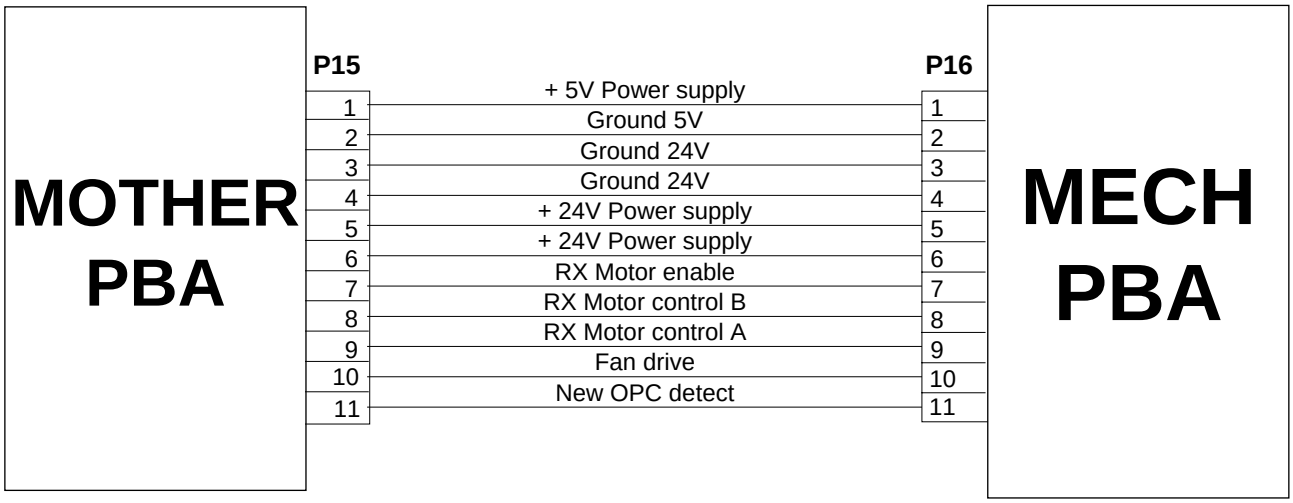

MAIN PBA
P2
P12
+24V Power control signal
Heat lamp control
Thermistor connector check
Recording paper pick-up detect
RX Motor enable
RX Motor control B
RX Motor control A
Fan drive
A4 Size cassette detect
Letter size cassette detect
P3
P11
+24V Power supply
+24V Power supply
Temperature detect for heater lamp
Ground 24V
Recording paper empty detect
Ground 5V
Recording paper exit detect
Ground 5V
Printing data latch
+ 5V Power supply
LPH Strobe 3
+ 5V Power supply
LPH Printing clock
+ 12V Power supply
LPH Strobe 2
Ground 12V
LPH LTIN data
Ground 12V
LPH Strobe 1
-12V Power supply
LPH Strobe 0
MOTHER PBA

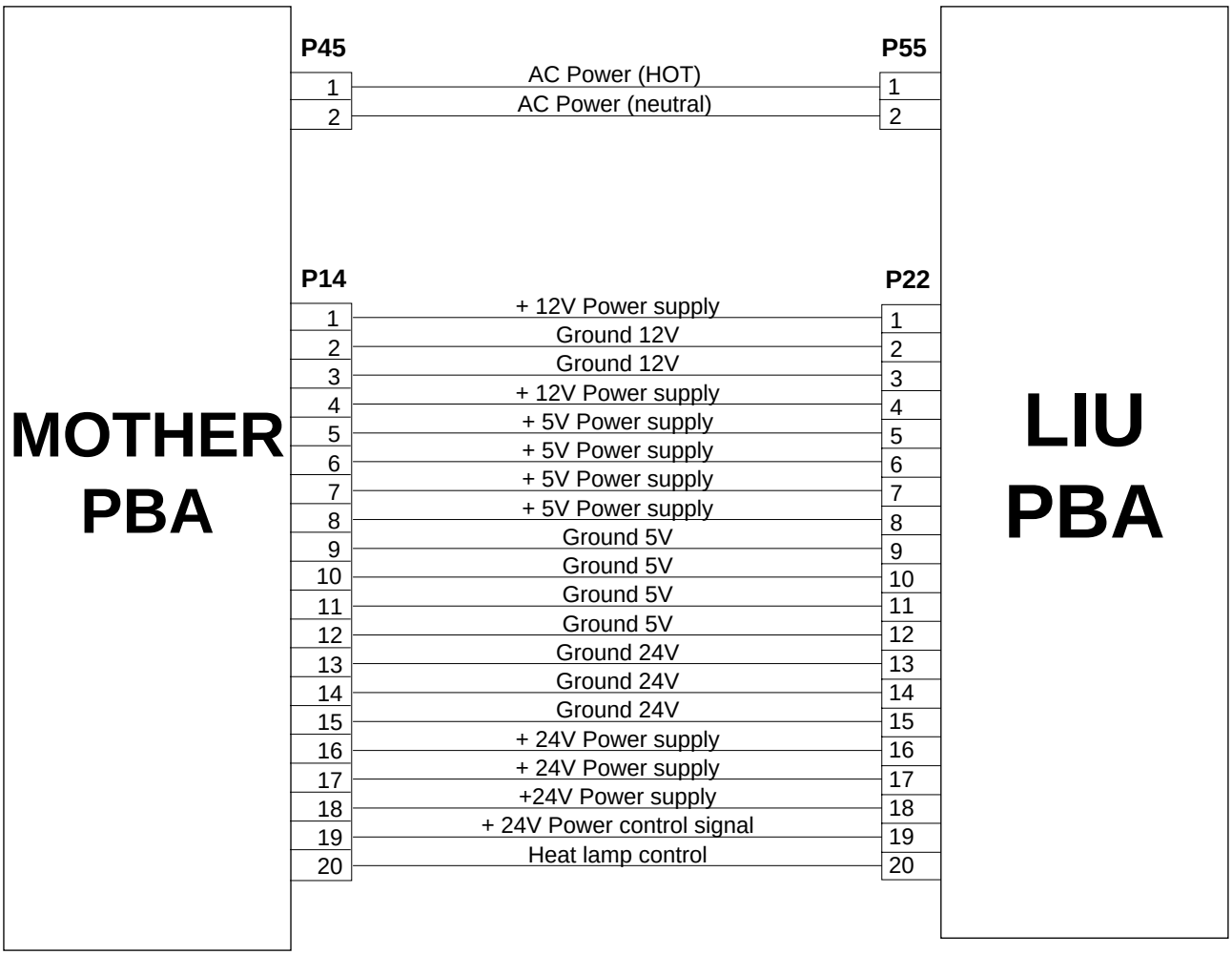

MAIN PBA
P60
P53
+24V Power control signal
Ground 24V
Tonner exit detect
AC Motor drive A
AC Motor drive B
+ 24V Power supply
Paper feed clutch control
CONNECTION PBA

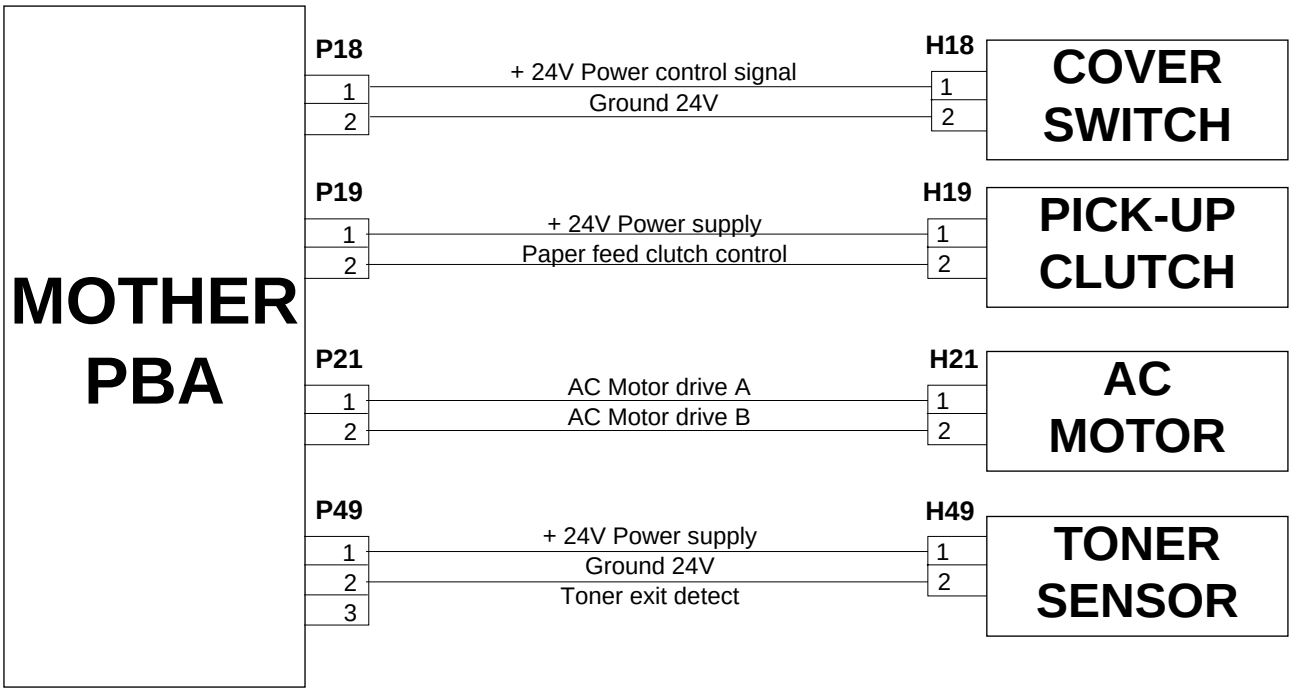

MAIN PBA
P1
P32
1 OPE Reset signal 1
2 RX Data from OPE 2
3 TX Data to OPE 3
4 CIS Scan signal output 4
5 Ground 5V 5
6 Speaker signal 6
7 +5V Power supply 7
8 Ground 12V 8
9 -12V Power supply 9
10 CIS Start pulse 10
11 +5V Power supply 11
12 Ground 5V 12
13 CIS LED +5V Power supply 13
14 Document scan position sensor output 14
15 Document scan position sensor +5V power supply 15
16 Not Used 16
17 +24V Power supply 17
18 TX Motor phase A 18
19 TX Motor phase /B 19
20 TX Motor phase B 20
21 TX Motor phase /A 21
22 Not Used 22
SCAN PBA

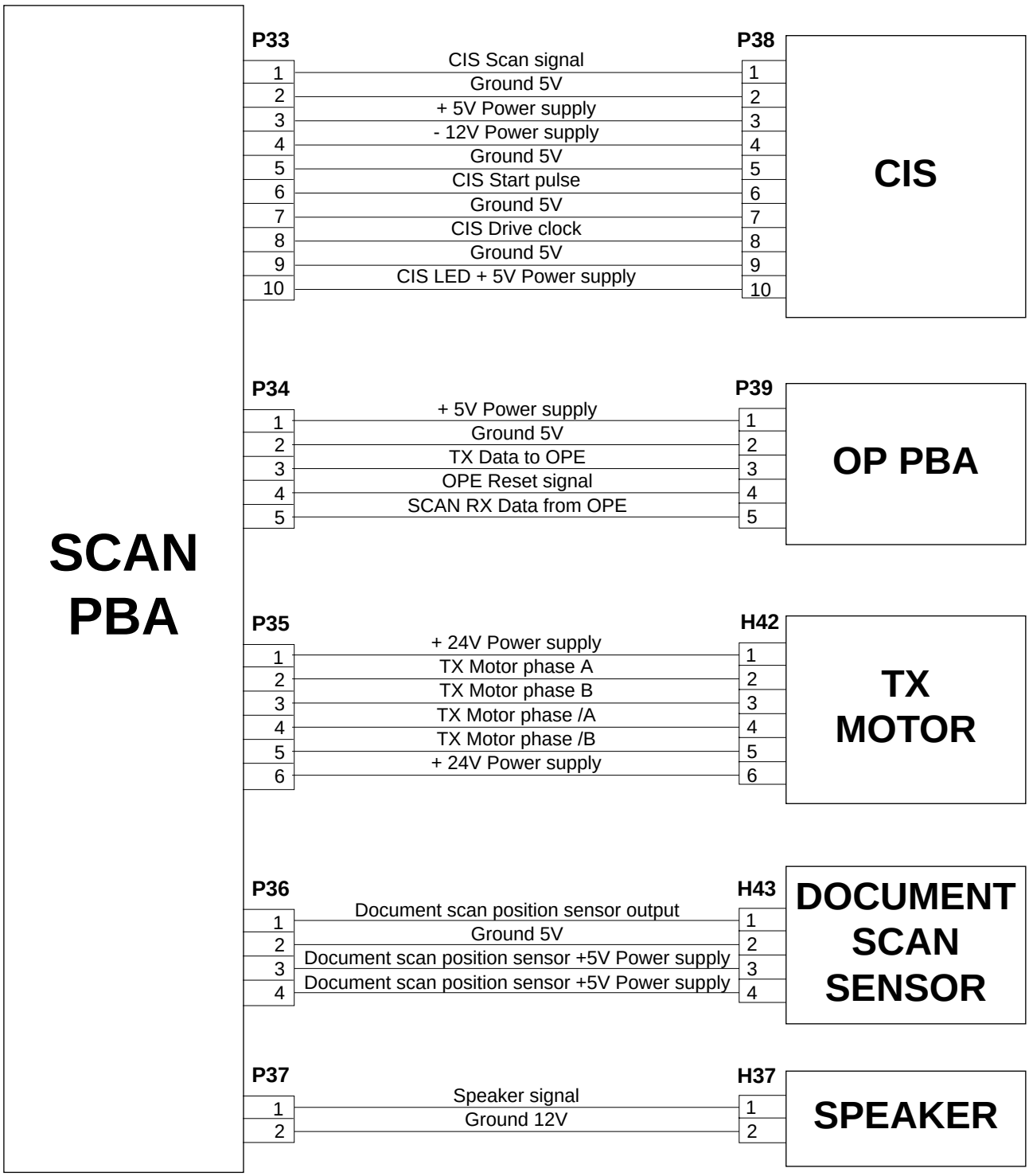

MAIN PBA
P5
H5
1 + 24V Power supply 1
2 Ground 24V 2
3 High voltage drive for transfer 3
4 High voltage drive for charge 4
5 Toner bias drive 5
HVPS

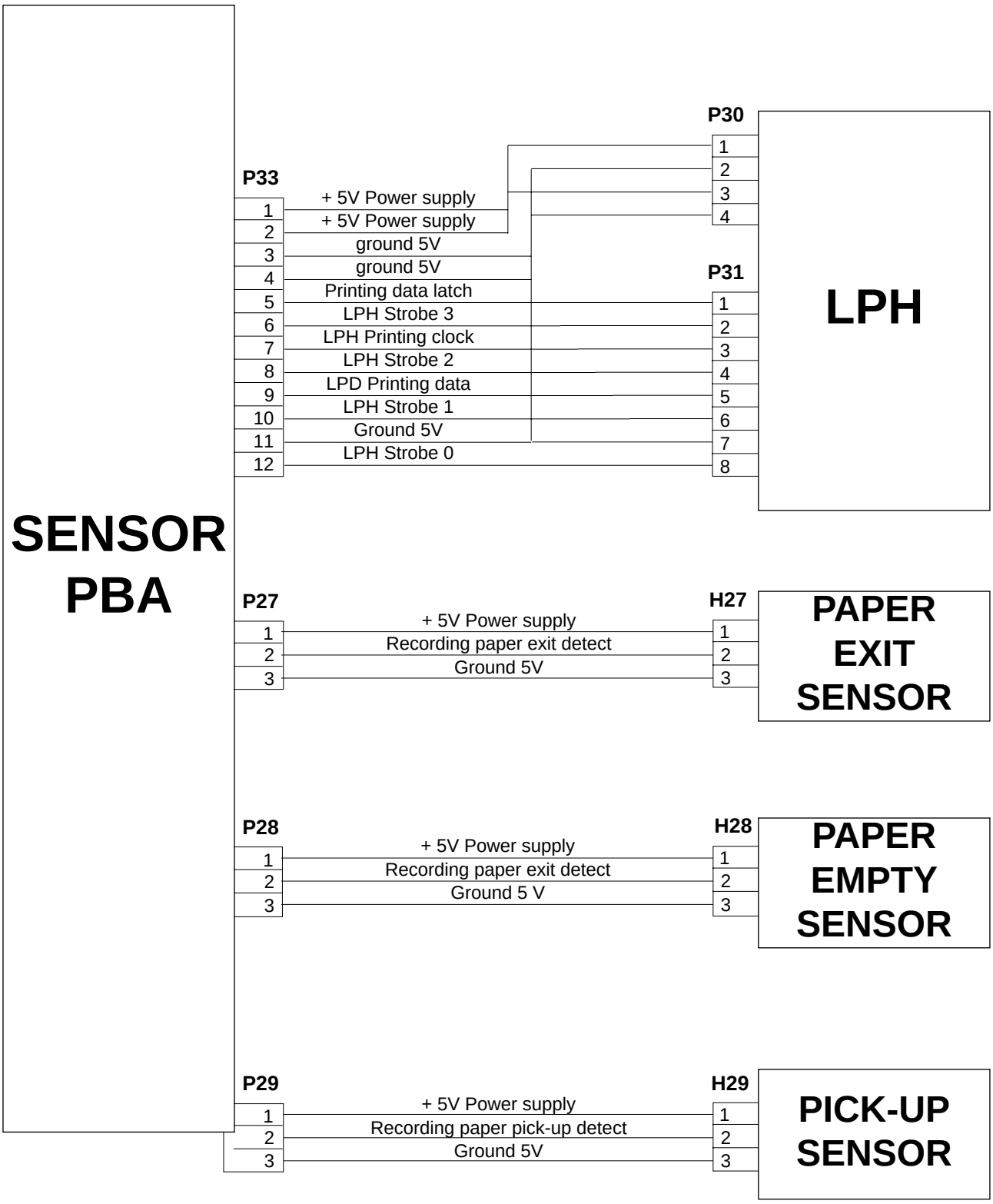

MAIN PBA
P4
P7
LIU PBA
1 + 5V Power supply
2 TAD/External telephone off hook detect
3 Ring detect
4 Ground 5V
5 CML Relay control
6 Built in handset off hook detect
7 TX/RX Data
8 Not Used
9 Not Used
10 Not Used
11 Ground 12V
12 Not Used
13 + 12V Power supply
14 - 12V Power supply
15 Remote tone signal
16 Volume control in
17 DP Control
18 Volume control out
19 TX Speech signal from handset
20 RX Speech signal to handset


MOTHER PBA
P15
P16
MECH PBA
1 + 5V Power supply
2 Ground 5V
3 Ground 24V
4 Ground 24V
5 + 24V Power supply
6 + 24V Power supply
7 RX Motor enable
8 RX Motor control B
9 RX Motor control A
10 Fan drive
11 New OPC detect


MOTHER PBA
P45
1
2
AC Power (HOT)
AC Power (neutral)
P55
1
2
P14
1 + 12V Power supply
2 Ground 12V
3 Ground 12V
4 + 12V Power supply
5 + 5V Power supply
6 + 5V Power supply
7 + 5V Power supply
8 + 5V Power supply
9 Ground 5V
10 Ground 5V
11 Ground 5V
12 Ground 5V
13 Ground 24V
14 Ground 24V
15 Ground 24V
16 + 24V Power supply
17 + 24V Power supply
18 +24V Power supply
19 + 24V Power control signal
20 Heat lamp control
P22
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
LIU PBA


MOTHER PBA
P18
1 + 24V Power control signal
2 Ground 24V
H18
1
2
COVER SWITCH
P19
1 + 24V Power supply
2 Paper feed clutch control
H19
1
2
PICK-UP CLUTCH
P21
1 AC Motor drive A
2 AC Motor drive B
H21
1
2
AC MOTOR
P49
1 + 24V Power supply
2 Ground 24V
3 Toner exit detect
H49
1
2
TONER SENSOR


SCAN PBA
P33
1
2
3
4
5
6
7
8
9
10
CIS Scan signal
Ground 5V
+ 5V Power supply
- 12V Power supply
Ground 5V
CIS Start pulse
Ground 5V
CIS Drive clock
Ground 5V
CIS LED + 5V Power supply
P38
1
2
3
4
5
6
7
8
9
10
CIS
P34
1
2
3
4
5
+ 5V Power supply
Ground 5V
TX Data to OPE
OPE Reset signal
SCAN RX Data from OPE
P39
1
2
3
4
5
OP PBA
P35
1
2
3
4
5
6
+ 24V Power supply
TX Motor phase A
TX Motor phase B
TX Motor phase /A
TX Motor phase /B
+ 24V Power supply
H42
1
2
3
4
5
6
TX MOTOR
P36
1
2
3
4
Document scan position sensor output
Ground 5V
Document scan position sensor +5V Power supply
Document scan position sensor +5V Power supply
H43
1
2
3
4
DOCUMENT SCAN SENSOR
P37
1
2
Speaker signal
Ground 12V
H37
1
2
SPEAKER


SENSOR PBA
P33
1 + 5V Power supply
2 + 5V Power supply
3 ground 5V
4 ground 5V
5 Printing data latch
6 LPH Strobe 3
7 LPH Printing clock
8 LPH Strobe 2
9 LPD Printing data
10 LPH Strobe 1
11 Ground 5V
12 LPH Strobe 0
P30
1
2
3
4
P31
1
2
3
4
5
6
7
8
LPH
P27
1 + 5V Power supply
2 Recording paper exit detect
3 Ground 5V
H27
1
2
3
PAPER EXIT SENSOR
P28
1 + 5V Power supply
2 Recording paper exit detect
3 Ground 5 V
H28
1
2
3
PAPER EMPTY SENSOR
P29
1 + 5V Power supply
2 Recording paper pick-up detect
3 Ground 5V
H29
1
2
3
PICK-UP SENSOR

4.2 INTER-UNIT SIGNAL DIAGRAM

MAIN PBA ⟷ MOTHER PBA

SYMBOL	CONNECTION		DESCRIPTION
	Main	Mother	
	P2	P12	
+ 24V	1, 2	1,2	+ 24V power supply
GND24	3, 5	3, 5	Ground 24
THERM IN	4	4	Temperature detect for Head Lamp
P_EMPTY	6	6	Recording paper empty detect
GND5	7, 9	7, 9	Ground5
P_EXIT	8	8	Recording paper exit detect
LPH_LA	10	10	Printing data latch
+ 5V	11, 13	11, 13	+ 5V Power supply
LPH_STB3	12	12	LPH strobe 3
LPH_PCLK	14	14	LPH printing clock
+ 12V	15	15	+ 12V power supply
LPH_STB2	16	16	LPH Strobe 2
GND12	17, 19	17, 19	Ground12
LPH_PDO	18	18	LPH Ltin data
LPH_STB1	20	20	LPH s~robe 1
-12V	21	21	-12V power supply
LPH_STSO	22	22	LPH Strobe 0

MAIN PBA ⟷ MOTHER PBA

SYMBOL	CONNECTION		DESCRIPTION
	Main	Mother	
	P3	P11	
+ 24V CNT	1	1	+ 24V power control signal
/FUSING ON	2	2	Heat lamp control
THERM_CONN	3	3	Thermister connect check
PICK_UP	4	4	Recording paper pick-up detect
RX_MOTOR_EN	5	5	RX Motor enable
RX B	6	6	RX Motor contorl B
RX A	7	7	PX Motor control A
/FAN_ON	8	8	Fan drive
A4_CAS	9	9	A4 size cassette detect
LTR_CAS	10	10	Letter size cassette detect
OPC	11	11	New OPC detect

MAIN PBA ◄——► CONNECTION PBA

SYMBOL	CONNECTION		DESCRIPTION
	Main	CONN.	
	P3	P11	
+ 24V CNT	1	1	+ 24V power control signal
GND 24	2	2	Heat lamp control
TONER	3	3	Thermister connect check
AC_A	4	4	Recording paper pick-up detect
AC_B	5	5	RX Motor enable
+ 24V	6	6	RX Motor contorl B
/CLUTCH_ON	7	7	PX Motor control A

MOTHER PBA ◄——► MECH. PBA

SYMBOL	CONNECTION		DESCRIPTION
	Main	Mech.	
	P15	P16	
+ 5V	1	1	+ 5V power supply
GND 5	2	2	Ground 5
GND 24	3, 4	3, 4	Ground 24
+ 24V	5, 6	5, 6	+ 24V power supply
RX_MOTOR_EN	7	7	RX Motor enable
RX B	8	8	RX Motor control A
RX A	9	9	RX Motor control B
/FAN_ON	10	10	Fan drive
OPC	11	11	New OPC detect

MOTHER PBA ◄——► SENSOR PBA

SYMBOL	CONNECTION		DESCRIPTION
	Maln	Mother	
	P13	P25	
+ 5V	1-3	1-3	+ 5V power supply
GND 5	4-6	4-6	Ground 5
PICK_UP	7	7	Recording paper pick-up detect
THERM_CONN	8	8	Thermister connect check
THERM_IN	9	9	Temperature detect for Heat Lamp
P_EMPTY	10	10	Recording paper empty detect
P_EXIT	11	11	Recording paper exit detect
LPH_LA	12	12	Printing data latch
LPH_STB3	13	13	LPH strobe 3
LPH_PCLK	14	14	LPH printing clock
LPH_STB2	15	15	LPH strobe 2
LPH_PD0	16	16	LPH printing data
LPH_STB1	17	17	LPH strobe 1
LPH_STB0	18	18	LPH strobe 0

MOTHER PBA ⟷ SMPS

SYMBOL	CONNECTION		DESCRIPTION
	Mother	SMPS	
	P15	P16	
- 12V	1	1	+ 12V power supply
GND 12	2, 3	2, 3	Ground 5
+ 12V	4	4	+ 12V power supply
+ 5V	5-8	5-8	+ 5V power supply
GND 5	9-12	9-12	Ground 5
GND 24	13-15	13-15	Ground 24
+ 24V	16-18	16-18	+ 24V power supply
+ 24V CNT	19	19	+ 24V power control signal
/FUSING_ON	20	20	Heat lamp control

MOTHER PBA ⟷ SMPS

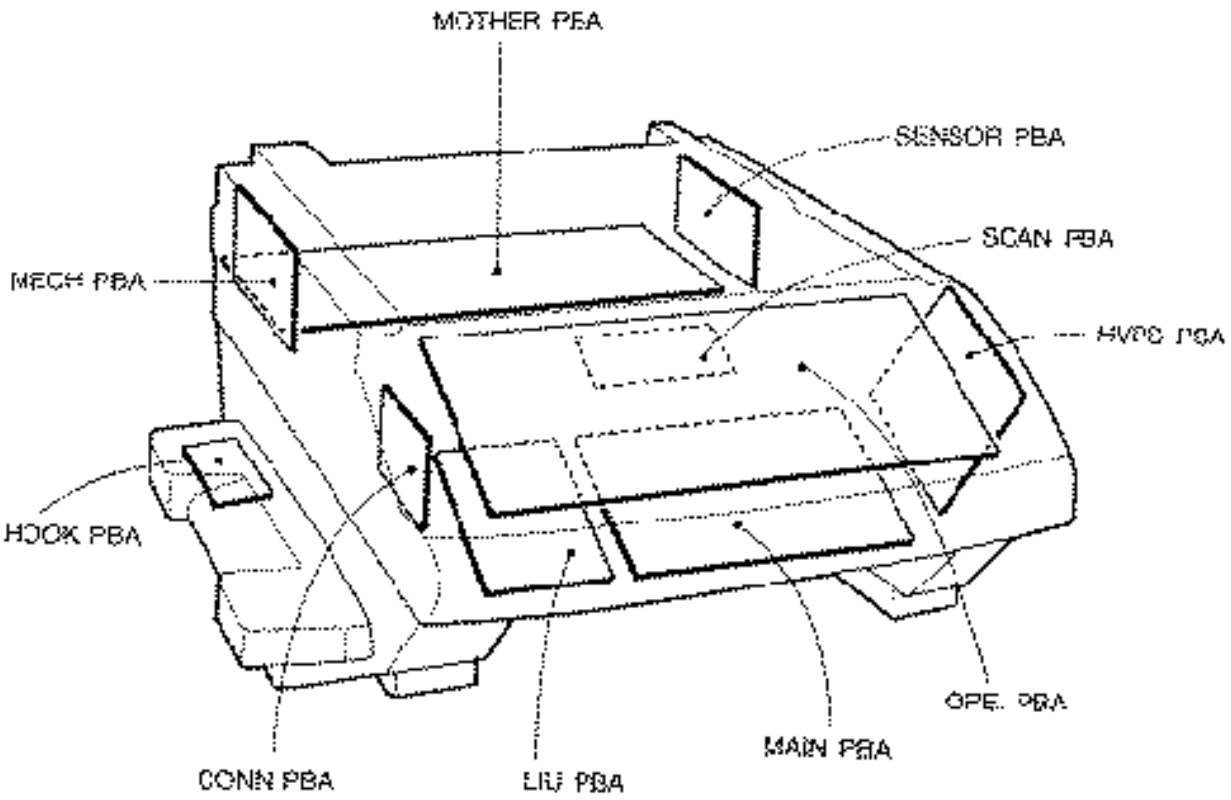
SYMBOL	CONNECTION		DESCRIPTION
	Mother	SMPS	
	P45	P55	
HOT	1	1	AC power
NEUTRAL	2	2	AC power

MOTHER PBA ⟷ POWER SWITCH

SYMBOL	CONNECTION		DESCRIPTION
	Mother	Power SW.	
	P50		
HOT	1		AC power
NEUTRAL	2		AC power

4.3 PRINTED BOARD ASSEMBLY VIEW

4.3.1 PRINTED BOARD ASSEMBLY LOCATION



4.4 PBA CIRCUIT DESCRIPTIONS

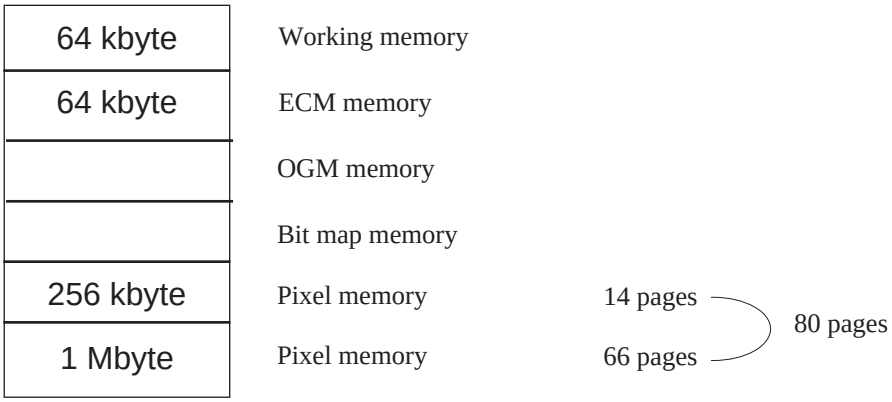
4.4.1 MAIN PBA

The Main PBA consists of six functional blocks. The functional blocks are:

- CPU
- Fax engine
- Memory
- Image processing
- AFE
- Telephone circuit

CPU
NS32FV164 is used as the control processor. This CPU executes the program instructions stored two 27c020 (256 kbyte x 2) EEPROMs and controls all system tasks that are to be preformed. The CPU stores the System in 32 kbyte of SRAM. CPU clock is generated by the fax engine.

MEMORY
CPU uses two 256 kbyte EPROM (27C020), one 32 kbyte SRAM (62256) for system data and two 512 kbyte DRAM (48C512X4) for working memory and pixel data.



FAX ENGINE
The uses NS32FX200-25 as a fax engine. It includes the bus controller, DMA controller, interrupt controller, UART, general purpose 1/0 port, RTC, sigma delta codes, and DRAM controller. It also generates various system control signal and 2 divided system clocks from an oscillator.

AS modem facility, It has modulator/demodulator for G3 mode, DTMF tone generator and tone detector.

The Msys5600/5700 can operate at speeds of 14000, 12000, 9600, 7200, 4800, 2400, and 300 bps. The NS32FX200 satisfies the telecommunications requirements specified in CCITT recommendations V.17, V.29, V.27ter, T.30, and T.4.

Its power is provided by a battery back-up circuit to retain RTC data.

IMAGE PROCESSING
Image processing consists of the image processor (STL7057) and SRAM (6264, 8kbyte). It has the following functional blocks:

- A/D converter
- Edge emphasis
- Gray scale (error diffusion method
- AGC/ABC
- Generation of the CIS drive clock

A 8 MHz system clock is supplied.

AFE (Analog Front End)
The AFE consists of op amps (4558) and analog switches (4053). The Tx signal is transmitted from the modem (N532FX200) to the LIU through the D / A converter and LPH.

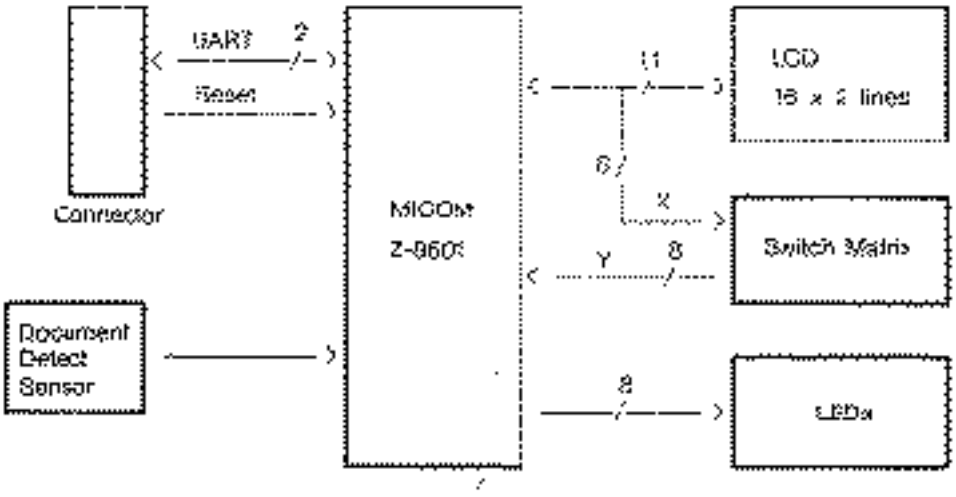
The RX signal is received from the LIU to the modem through BPF and A / D converter.

TELEPHONE
The telephone circuit consists of op amps, and analog switches. The TEL Tx signal from the microphone in the handset is transmitted to the dynamic unit of handset through BPF.

Off-hook is detected by mechanical switch in the handset cradle. The ring signal is generated by the TX signal of modem.

4.4.2 OPE PBA

The Ope PBA consists of a micom, LCD, key matrix, LEDs, and a document detect sensor. Information about which key is depressed, is passed through X and Y lines to the micom. The micom outputs a UART (Universal Asynchronous Receiver and Transmitter) code for the depressed key or sensor's level to the main PBA. Display data is transmitted to the micom by the controller on the main PBA and is sent to the LCD or LEDs by the micom. This information will display the machine status on the LCD.



4.4.3 SCAN PBA

The scan PBA is placed on the bottom of the scan module which contains the CIS, Ope, P13A, TX motor, scan sensors and a speaker. It passes the various signals from the scan module to the main PBA.

4.4.4 LIU PBA

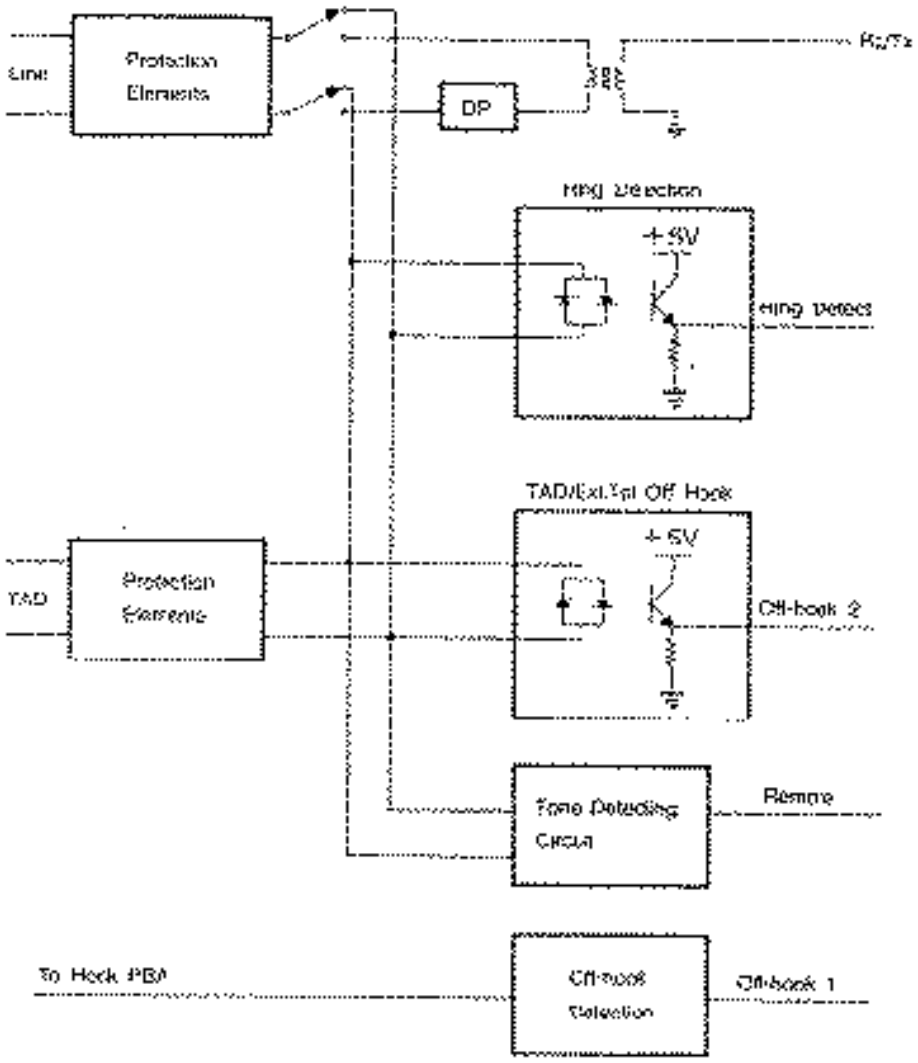
The LIU PBA iS a llne interface unit. It has the line signal input and output, off-hook detection, ring detection, DP dialer and TAD interface. It also contains protection elements to preserve fax system from llne abnormalities such as surge, lightning, etc.

LINE SIGNAL

The line signal is sent from the transformer to the line through the CML relay. The line signal means TX / RX data and MF / DP dial signal.

RING AND HOOK

There are two off-hook detecting circuits which are the handset off-hook detecting circuit and the TAD (or external telephone) off-hook detecting circuit. The handset on-hook detecting circuit consists of a hook switch on the hook PBA and resistors. The TAD off-hook detecting circuit contains a photo coupler. These detecting signals are sent to the main PBA through a photocoupler, a capacitor and a resistor.



TONE DETECTING CIRCUIT

Tone detecting circuit consists of the transformer, capacitors and resistors. ThiS circuit detects the tone which is sent from other fax machines or telephones.

4.4.5 MOTHER PBA

Mother PBA receives power from SMPS and distributes It to the other PBAS. It also contains the cassette size detecting sensors.

4.4.6 CONNECTION PBA

Connection PBA delivers the signal of the cover switch, pick-up solenoid, AC motor, and toner sensor to the main PBA.

4.4.7 MECH PBA

Mech PBA relays the signals of RX motor, Fan, and Fuse to the mother PBA.

4.4.8 SENSOR PBA

It is composed of various sensors SUCh as P.EXIT, P.EMPTY, PICK-UP and the thermistor. AISO the LPH (LED print head) is connected to the sensor PBA.

4.4.9 HOOK PBA

Hook PBA generates a handset off-hook signal which is delivered to the main PBA through the LIU PBA. It is placed in the cradle.

4.4.10 SMPS

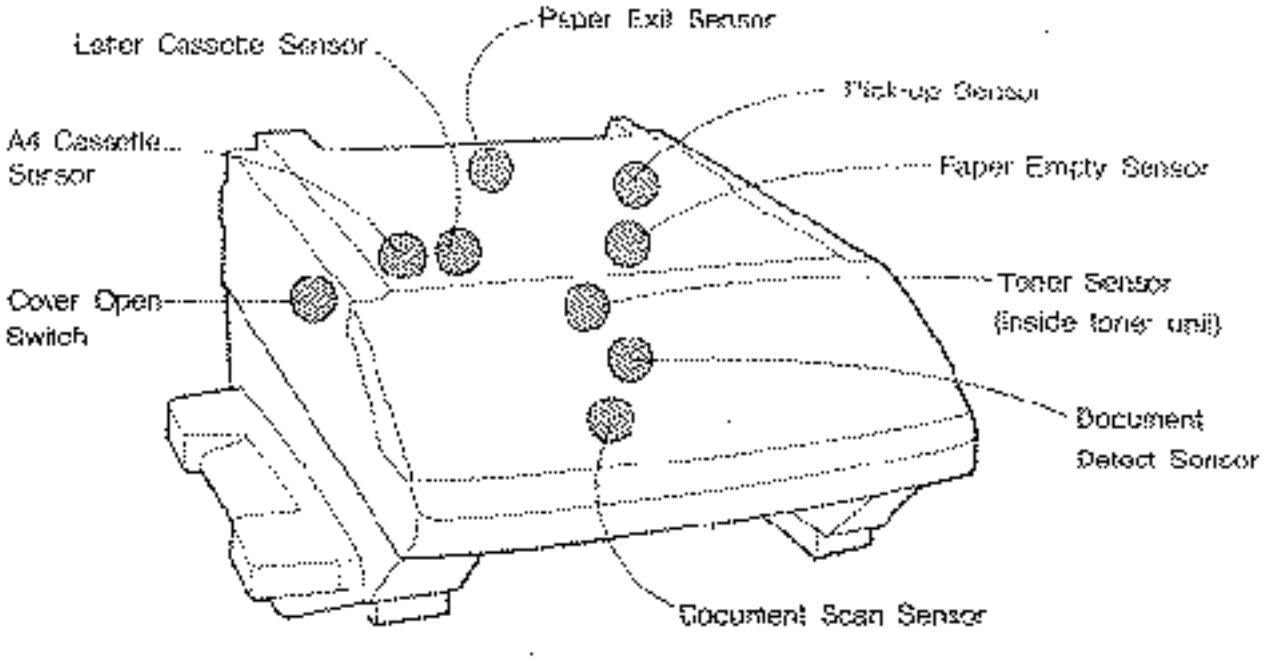
The switching mode power supply unit supplies DC power of + 5V, + 12V, -12V, + 24V, and AC power of 110V for the heat lamp.

4.4.11 HVPS

The high voltage power supply unit provides 450 VDC bias voltage to the developer cartridge and 7000 VDC to the precharge and transfer coronas.

4.5 SENSORS

4.5.1 SENSORS LOCATION



4.5.2 SENSOR TABLE

	Description	Type	Remark
COVER	Upper cover open switch	Snap action switch	Active Low
DOC DETECT	**D**ocument exit detect	Photo interrupter	Active Low
DOCUMENT SCAN	Document scan position detect	Photo interrupter	Active Low
A4 CASSETTE	A4 size cassette detect (or optional legal cassette detect)	Photo interrupter	Active Low
LETTER CASSETTE	Letter size cassette detect	Photo interrupter	Active Low
PAPER EXIT	Recording paper exit detect	Photo interrupter	Active Low
PAPER EMPTY	Recording paper empty detect	Photo interrupter	Active Low
PICK-UP	Recording paper pick-up detect	Photo interrupter	Active Low
TONER	Toner exit detect	Magnetic induction	Analog output

CHAPTER 5
Maintenance & Troubleshooting

Chapter 5 MAINTENANCE & TROUBLESHOOTING

5.1 PREVENTATIVE MAINTENANCE

The cycle period outlined below is a general guideline for maintenance. The example list is for an average usage of 50 transmitted and received documents per day. Environmental conditions and actual use will vary these factors. The cycle period given below is for reference only.

COMPONENT	CLEANING CYCLE	REPLACEMENT CYCLE
ADF Roller	1 Year	2 - 3 Years (20,000 pages)
Feed & Exit Roller	1 Year	3 - 5 Years (50,000 pages)
Roll Pinch	1 Year	3 - 5 Years (50,000 pages)
White Roller	6 Months	3 - 5 Years (50,000 pages)
CIS	6 Months	-

5.2 DIAGNOSTICS

This section describes methods and procedures to isolate the cause of a malfunction in the machine. This machine displays diagnostic information on the LCD. In addition, it can perform a series of tests that allow the machine to observe individual machine functions.

5.2.1 ERROR MESSAGES

Error Message	Description	Solution
BUSY REDIAL ?	The machine is waiting the programmed interval to automatically redial previously.	You can press **YES** to immediately redial, or **NO** to cancel the redial operation.
COMM. ERROR	A problem with the acsimile communications has occurred.	Try again.
COMPATIBLE ERROR	Remote party did not have the requested feature, such as a confidential transmission or relay transmission.	Reconfirm your remote party's feature.
	It also occurs if the remote machine has insufficient memory space to complete the operation you are attempting	
DOCUMENT JAM	Loaded document has Jammed in the feeder.	Clear the document Jam.
DOOR OPEN	The top cover is not securely latched.	Press down on the cover until you feel it latch securely.
	Drum cartridge is not Installed.	Install the cartridge properly.

Error Message	Description	Solution
GROUP NOT AVAILABLE	You have tried to select a group location where only a single location number can be used, such as when adding locations for a multi-dial operation.	
LINE ERROR	Your unit cannot connect with the remote machine, or has lost contact because of a problem on the phone line.	Try again. if failure persists wait an hour or so for the line to clear then try again.
LOAD DOCUMENT	You have attempted to set up a sending operation with no document loaded.	Load a document and try again.
MEMORY FULL	The memory has become full.	Either delete unnecessary documents, or retransmit after more memory becomes available, or split the transmission into more than one operation.
NO ANSWER	The remote machine was not answered after all the redial attempts.	Try again
		Make sure the remote machine is OK.
NO CASSETTE	The cassette is empty or is installed improperly.	Install the cassette properly.
NO CARTRIDGE	No toner cartridge in the printer system. The printer system stops.	Install the toner cartridge in place properly.
NO. NOT ASSIGNED	The one-touch or speed dial location you tried to use has no number assigned to it.	Dial the number manually with the keypad, or assign the number.
NO PAPER	The recording paper has run out. The printer system stops.	Load the recording paper in the paper cassette.
OVERHEAT	Your fax machine has overheated possibly as a result of receiving several nearly all-black faxes.	Your unit will automatically return to the standby mode when it cools down to normal operating temperature.
PAPER JAM 0	Recording paper has jammed in paper feeding area.	Press **STOP** and clear the jam.
PAPER JAM 1	Recording paper has jammed inside the machine.	Clear the jam.
PAPER JAM 2	The Jammed paper still remains inside the machine.	Clear the jam.

Error Message	Description	Solution
POLL CODE ERROR	When setting up to poll another fax machine, you have used an incorrect poll code.	Enter the correct poll code.
POLLING ERROR	The remote fax machine you want to poll is not ready to respond to your poll.	The remote operator should know in advance that you are polling and have their fax unit loaded with the original document.
POWER FAILURE	A power failure has occurred.	If there has been documents stored in memory, Power failure report will be printed automatically when the power is restored.
TONER EMPTY	The toner is empty.	Replace with a new developer and initialize new development procedure.
TONER LOW	The printer system stops.	After recording about 200 sheets of letter size recording paper **TONER EMPTY** appears in the display, and the printer system stops.
WARM UP	The toner is almost empty. The printer is warming up and is off line.	Replace with a new one. Wait until the printer is on-line.

5.2.2 TEST MODE

The test mode is used to test certain functions of the machine. The available tests are:

- Pattern Test
- Switch Test
- CIS Test
- Modem Test
- Memory Test
- ROM Test

To enter the Test Mode:

1. Get into the Tech Mode by pressing **Function, #, 1, 9, 3, 4**.
2. In Tech Mode, press **Function** and then the **7** key.
3. Press **Yes**.
4. Press the **No** key until the desired test is shown in the display.
5. Press **Yes** to initiate the test mode.

Pattern Test

There are 7 different pattern tests which can be run to determine the condition of the LPH and the printer components. The test patterns include various black, medium gray, and light gray scales. If the thermal head is operating properly, each area appears even, distinct, and with no inconsistencies in printing.

Switch Test

This test checks the operation of the LCD display and the LED indicators that interface the switches on the operation panel.

CIS Test

This test mode checks the condition of the Contact Image Sensor. This is a true test of the white reference level.

Modem Test

This test causes the machine to generate a particular frequency to verify the operation of the modem control circuits and the modem.

Memory Test

This test is used for checking the Random Access Memory (RAM) on the main PBA. If all memory is working normally, the LCD shows **TESTING OK!**. When this testing is carried out, any picture data stored in memory is erased.

ROM Test

This test mode will display and check the current ROM level in your machine.

5.2.3 MAINTENANCE LIST

A number of reports can be printed from the fax machine within the test mode. The protocol list and memory dump list all contain detailed information which may be required when contacting technical support.

To printout the protocol and memory dump lists:

1. Get Into the Tech Mode by pressing **Function, #, 1, 9, 3, 4**.

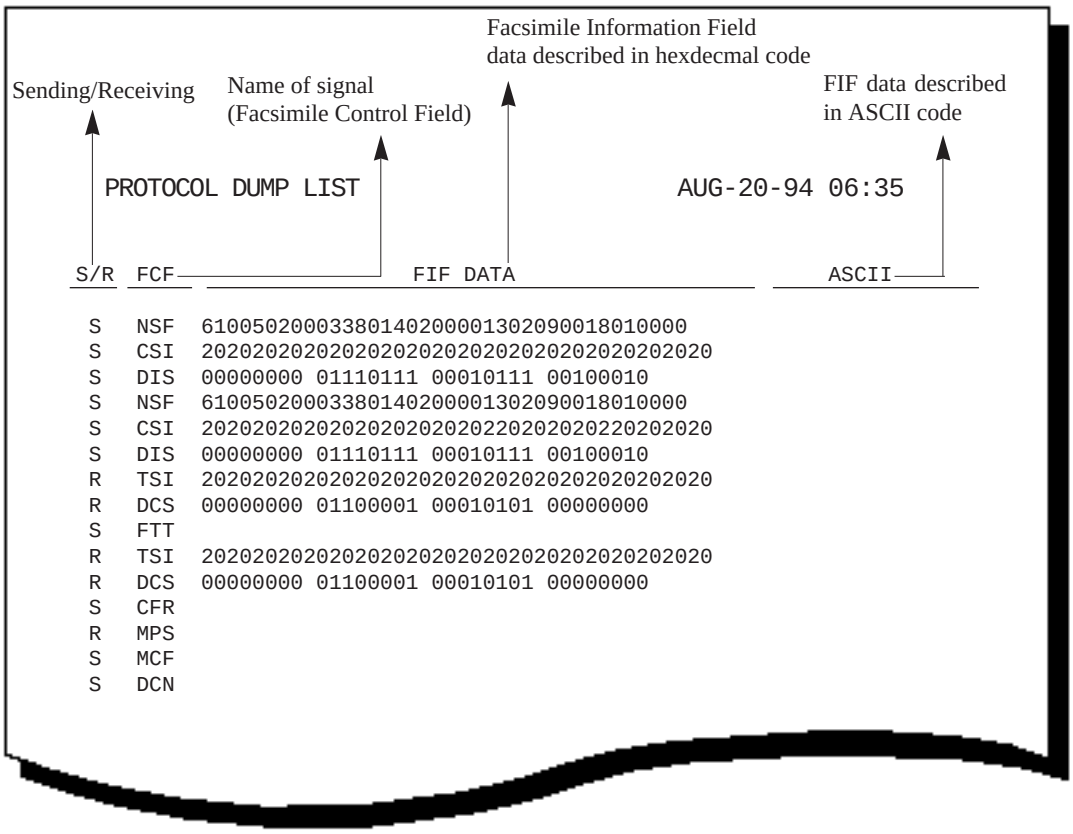
2. In Tech Mode, press **Function** and the **6** keys..

3. Press **Yes**.

4. Press **No 5 times** to get to **Protocol Dump List** or **6 times** to get to **Memory Dump**

5. Press **Yes**.

SAMPLE OF A PROTOCOL DUMP LIST



5.3 REMOTE DIAGNOSTICS AND CONTROL

This feature is available only on the Msys5600 / 5700 if a special ROM (Read Only Memory) is equipped with your fax machine.

Remote diagnostics and control is a feature that allows you to manage the end user's machine located in a remote location. You can diagnose the remote machine and control its system data without visiting the customer. If your machine displays **REMOTE DIAGNOSTICS ?** when you enter **Function** and **9**, you can confirm that your machine has the special ROM installed.

Remote diagnostics and control consists of the following three items:

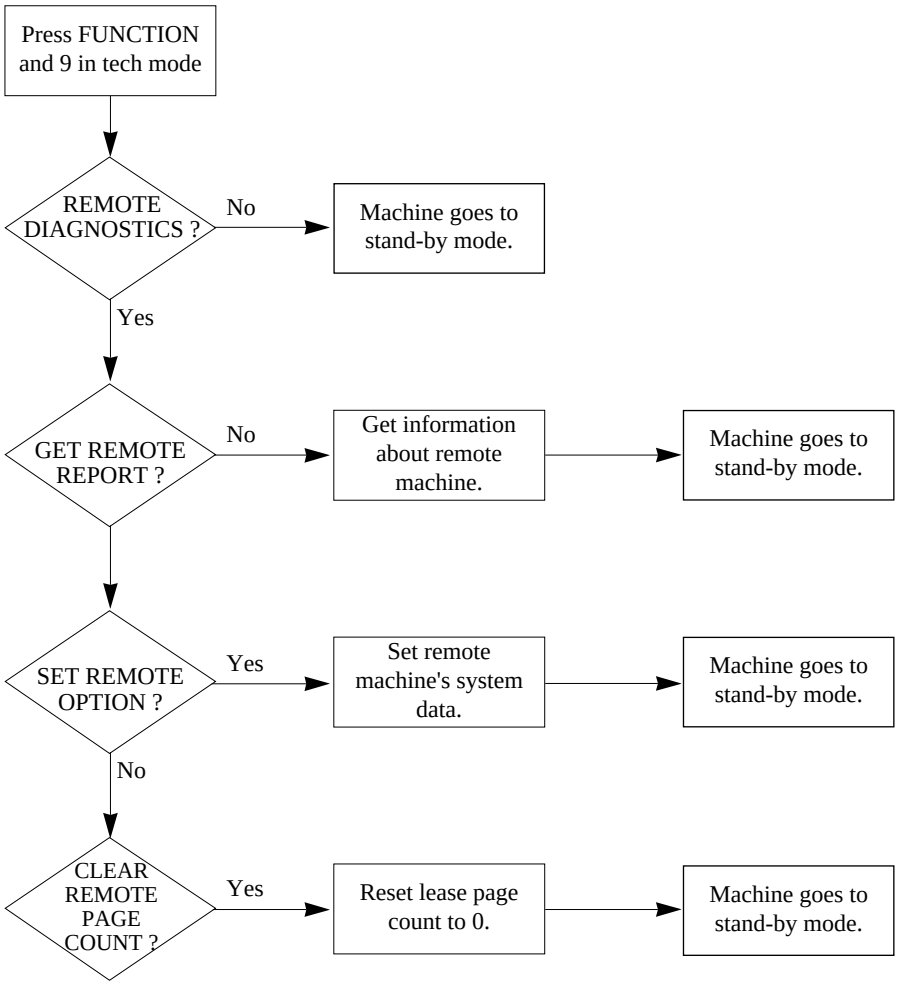
- **GETTING INFORMATION ABOUT A REMOTE FACSIMILE**
  prints out the hardware and software information of the remote machine

- **SETTING REMOTE OPTIONS**
  changes the system data of the remote machine

- **RESETTING LEASE PAGE COUNT**
  resets the page count of the remote machine to 0. This item is for managing a leased machine.

To enter Remote Diagnostics:

1. Get into the Tech Mode by pressing **Function, #, 1, 9, 3, 4**.
2. while in Tech Mode, press **Function** and then the **9** key.
3. Press **Yes**.
4. Press **No** until you get to the remote diagnostic mode you
5. Press **Yes**.



5.3.1 GETTING INFORMATION ABOUT A REMOTE FACSIMILE

MAY-15 15:30 SAT TECH MODE

1. Press **FUNCTION**, then **9** in technician mode.

REMOTE DIAGNOSIS ? Y/N

2. Press **YES**.

GET REMOTE REPORT ? Y/N

3. Press **YES**.
   The machine displays the menu you can check for the remote machine. If you do not wish to check the item shown in the display, press **SCROLL** or **NO**. The next menu will be displayed. When the item you wish to check appears in the display, press **YES**.

REMOTE DATE OF ROM ? Y/N

4. If you want to check the released date of the software equipped with the remote machine, press **YES**. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

REMOTE MODEL NAME ? Y/N

5. If you want to check the model name of the remote machine, press **YES**. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

REMOTE LAMP TEST ? Y/N

6. If you want to test the CIS (Contact Image Sensor) of the lamp equipped with the remote machine, press **YES**. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

REMOTE ROM TEST ? Y/N

7. If you want to test the ROM of the remote machine, press **YES.** Otherwise, press **NO** or **SCROLL** to skip to the next menu.

REMOTE RAM TEST ? Y/N

8. If you want to test the SRAM (static RAM) of the remote machine, press **YES**. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

Once you perform the remote SRAM test, the SRAM of the remote machine will be cleared and the default value will be stored into the SRAM.
CAUTION: All information about the terminal ID, auto dialer number, etc. will be cleared.

REMOTE MEMORY TEST ? Y/N

9 If you want to test the image memory (DRAM) of the remote machine, press **YES**. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

Once you perform the remote DRAM test, it will cause the reserved file to be cleared, so a delayed job such as delay transmission will be canceled without notification to the remote users.

REMOTE OPTION LIST ? Y/N

10. If you want to check the current system data setup of the remote machine, press **YES**. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

REMOTE TX REPORT ? Y/N

11. If you want to get the transmission journal of the remote fax machine, Press YES. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

    Once you press YES to get the transmission journal of the remote machine, your machine skips over step 12. Only one journal may be received during remote diagnostics.

REMOTE RX REPORT ? Y/N

12. If you want to get the reception journal of the remote fax machine, press **YES**. Otherwise, press **NO** or **SCROLL** to skip to the next menu.

ENTER TEL. NO

13. Enter the number of the remote fax machine using the dial keypad. When the number appears correctly in the display, press **YES**.

14. Your fax machine (with EPROM) automatically dials the number, confirms the connection, get information you want to check from the remote machine, and prints the information on your machine.

5.3.2 SETTING THE SYSTEM DATA OF THE REMOTE FACSIMILE

Caution: Before you change a system data of the remote fax machine, you have to print out the system data set-up list to check the current status of the remote machine. If not, your fax machine displays SET OPTION LIST AND TRY AGAIN when you try to set system data of the remote machine, then returns to the standby mode.

MAY-15 15:30 SAT TECH MODE

1. Press **FUNCTION,** then **9** in the technican mode.

REMOTE DIAGNOSIS ? Y/N

2. Press **YES**.

GET REMOTE REPORT ? Y/N

3. Press **NO**, then **YES**.

SET REMOTE REPORT ? Y/N

4. The system data will be displayed. The data set-up for a remote machine is the same as that in section 2.5 System Data set-up.

   You can set the option to a special value for the remote machine.

ENTER TEL. NO

5. Enter the number of the remote fax machine using the dial keypad. When the number appears correctly in the display, press **YES**.

6. Your fax machine (with EPROM) automatically dials the number, confirms the connection, and transfers this system data you have set to the remote machine.

5.3.3 RESETTING LEASE PAGE COUNT

MAY-15 15:30 SAT TECH MODE

1. Press **FUNCTION**, then 9 in the technician mode.

REMOTE DIAGNOSIS ? Y/N

2. Press **YES**.

GET REMOTE REPORT ? Y/N

3. Press **NO** repeatedly until 'CLEAR REMOTE PAGE COUNT ?, then Press **YES**.

SET REMOTE REPORT ? Y/N

4. Press **YES**.

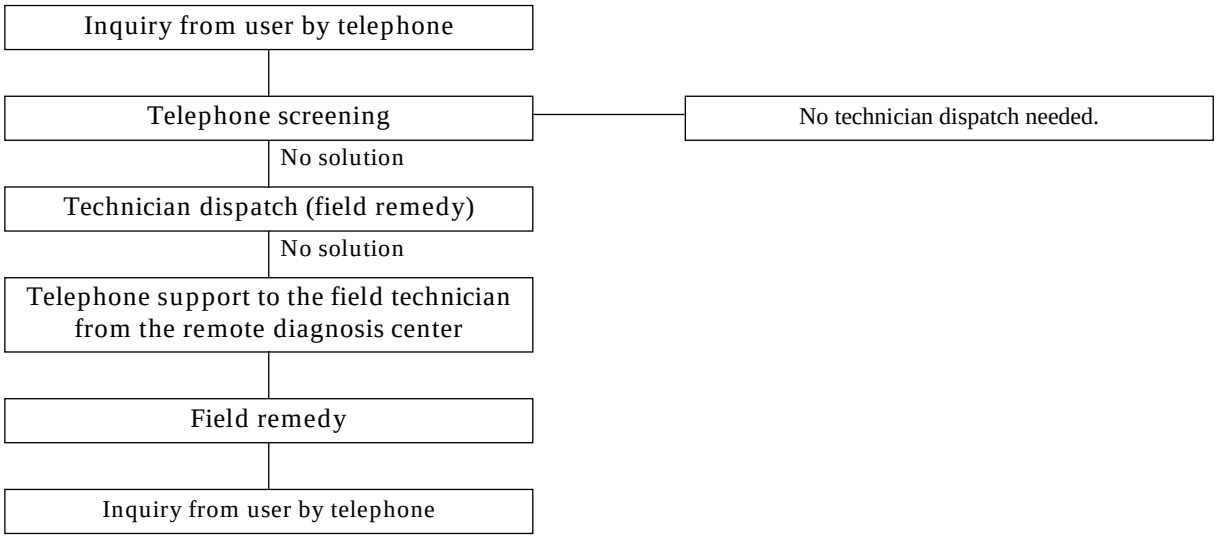
ENTER TEL. NO

5. Enter the number off the remote fax machine using the dial keypad. When the number appears correctly in the display, press **YES**.

5.4 TROUBLESHOOTING GUIDE

5.4.1 TELEPHONE SCREENING

FLOW CHART FOR FIELD REMEDY


Inquiry from user by telephone
Telephone screening
No technician dispatch needed.
No solution
Technician dispatch (field remedy)
No solution
Telephone support to the field technician from the remote diagnosis center
Field remedy
Inquiry from user by telephone

INQUIRY FROM USER

When receiving an inquiry from the user, first ask the nature of the problem in detail. This is because most problem inquires are the result of:

1) Simple misoperation.
- Document are loaded upside down.
- The recording paper is not loaded properly.

2) A failure with the telephone line.

3) A failure with the other party's machine

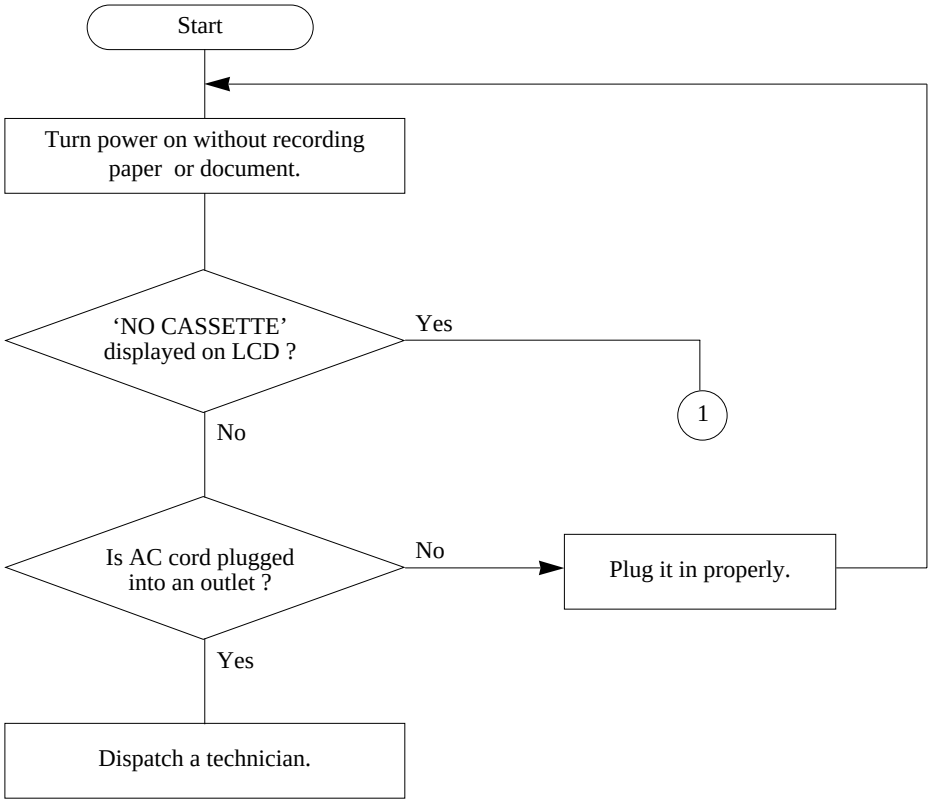
In the case of 1), the user can solve the problem through the instructions given from the fax machine (help list printed out from fax machine).

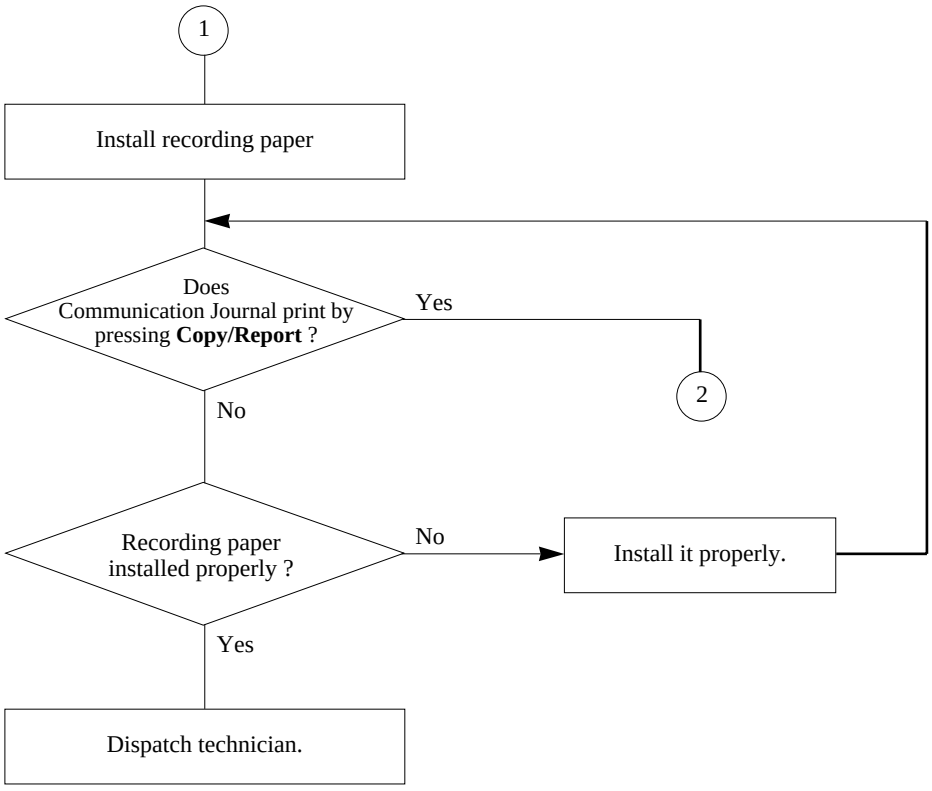
In the case of 2) or 3), the user can check his/her own machine by performing a communication test with another (known good) facsimile machine.

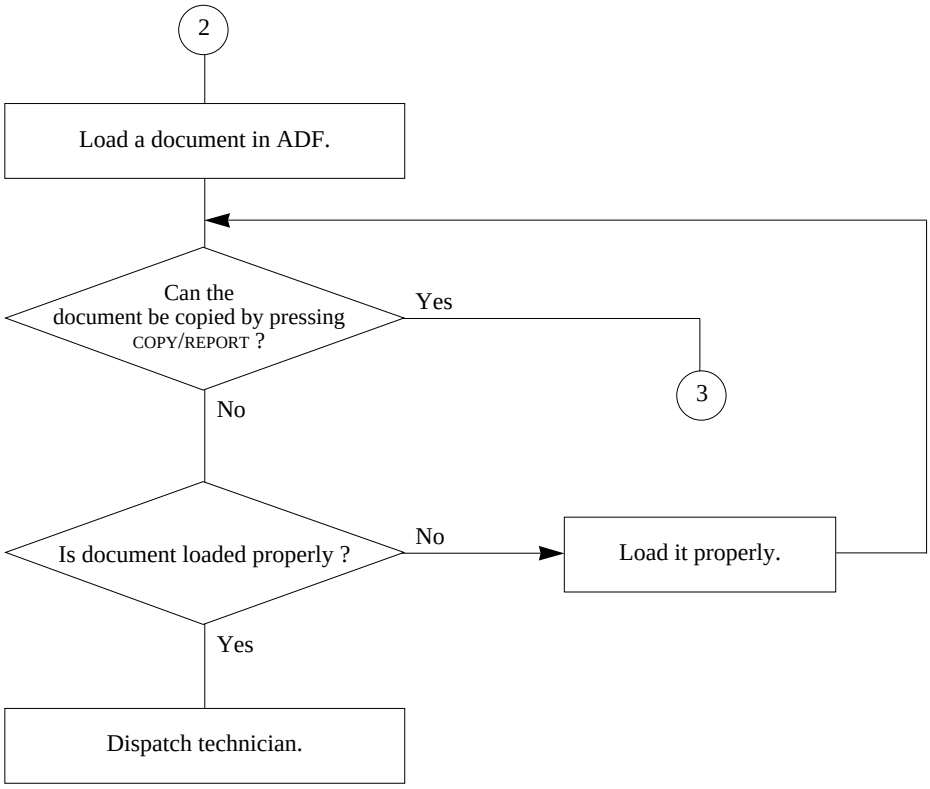
INDICATION OF ERROR

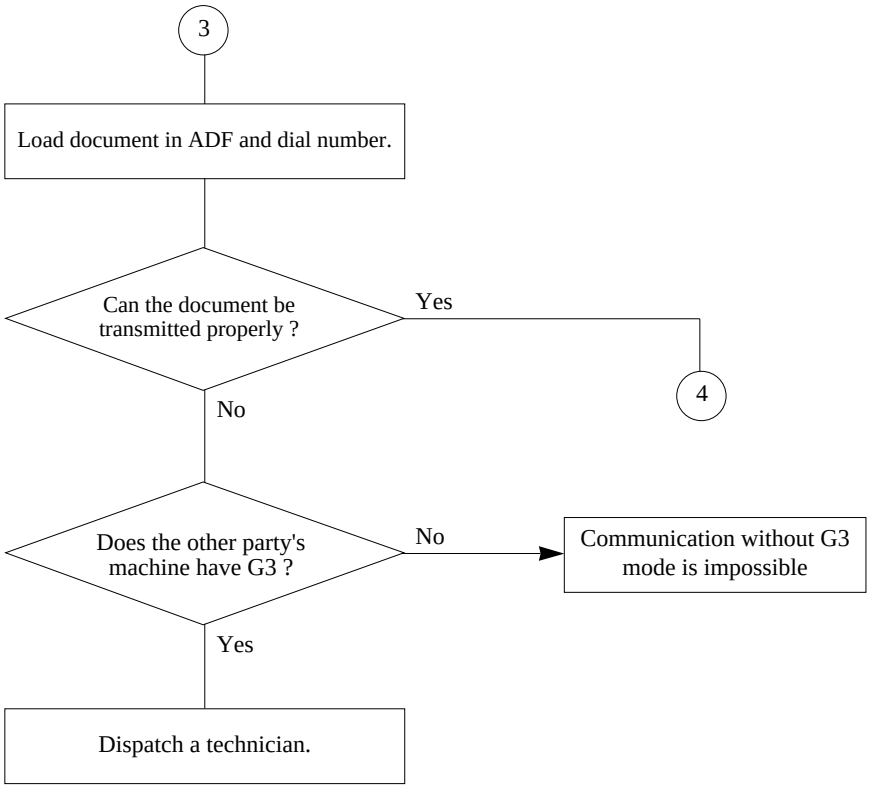
During this preliminary screening procedure, the user can clarify the facsimile trouble by referring to the prompts on the LCD display. If the user is unable to provide this information of his own accord, proceed to "Recommended Flow For Telephone screening."

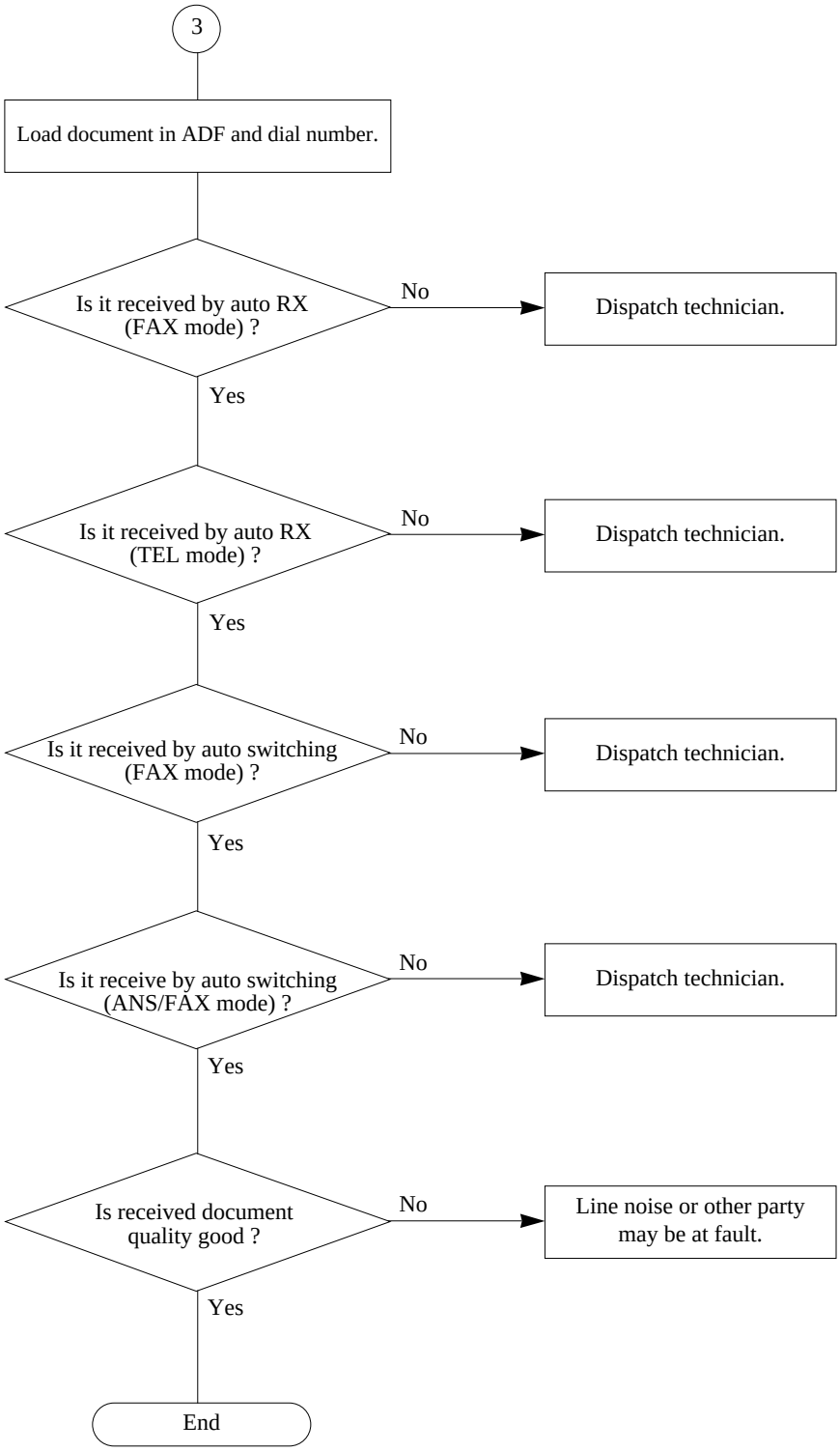
5.4.2 RECOMMENDED TELEPHONE SCREENING



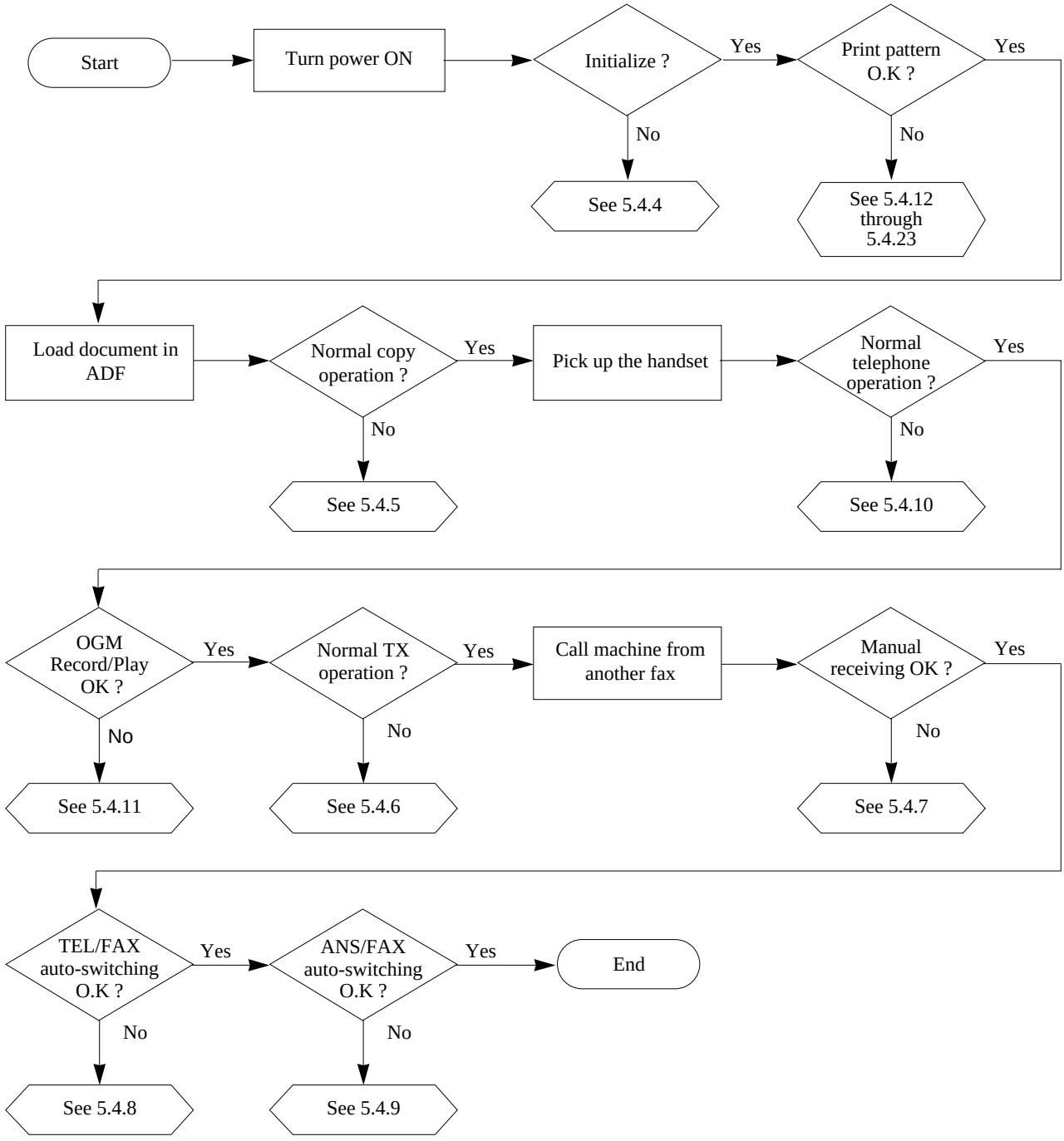



2
Load a document in ADF.
Can the document be copied by pressing COPY/REPORT ?
Yes
3
No
Is document loaded properly ?
No
Load it properly.
Yes
Dispatch technician.

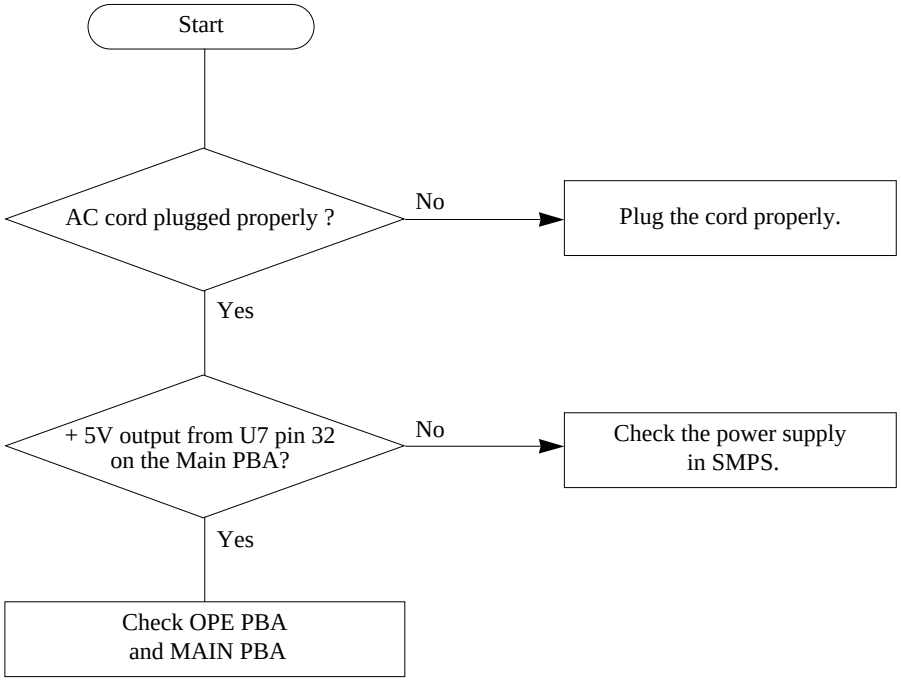

3
Load document in ADF and dial number.
Can the document be transmitted properly ?
Yes
4
No
Does the other party's machine have G3 ?
No
Communication without G3 mode is impossible
Yes
Dispatch a technician.


3
Load document in ADF and dial number.
Is it received by auto RX (FAX mode) ?
No
Dispatch technician.
Yes
Is it received by auto RX (TEL mode) ?
No
Dispatch technician.
Yes
Is it received by auto switching (FAX mode) ?
No
Dispatch technician.
Yes
Is it receive by auto switching (ANS/FAX mode) ?
No
Dispatch technician.
Yes
Is received document quality good ?
No
Line noise or other party may be at fault.
Yes
End

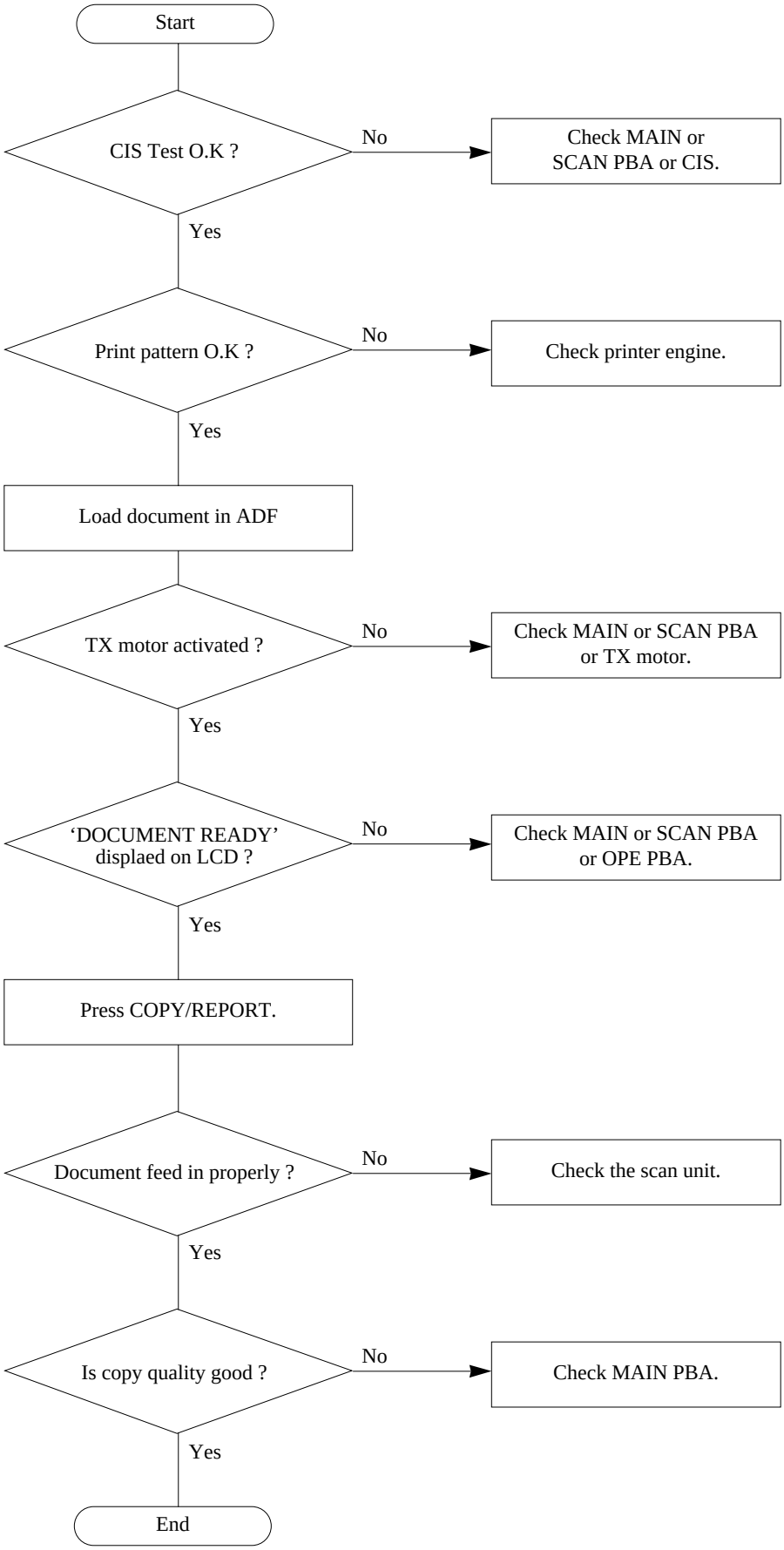
5.4.3 OVERALL TROUBLESHOOTING



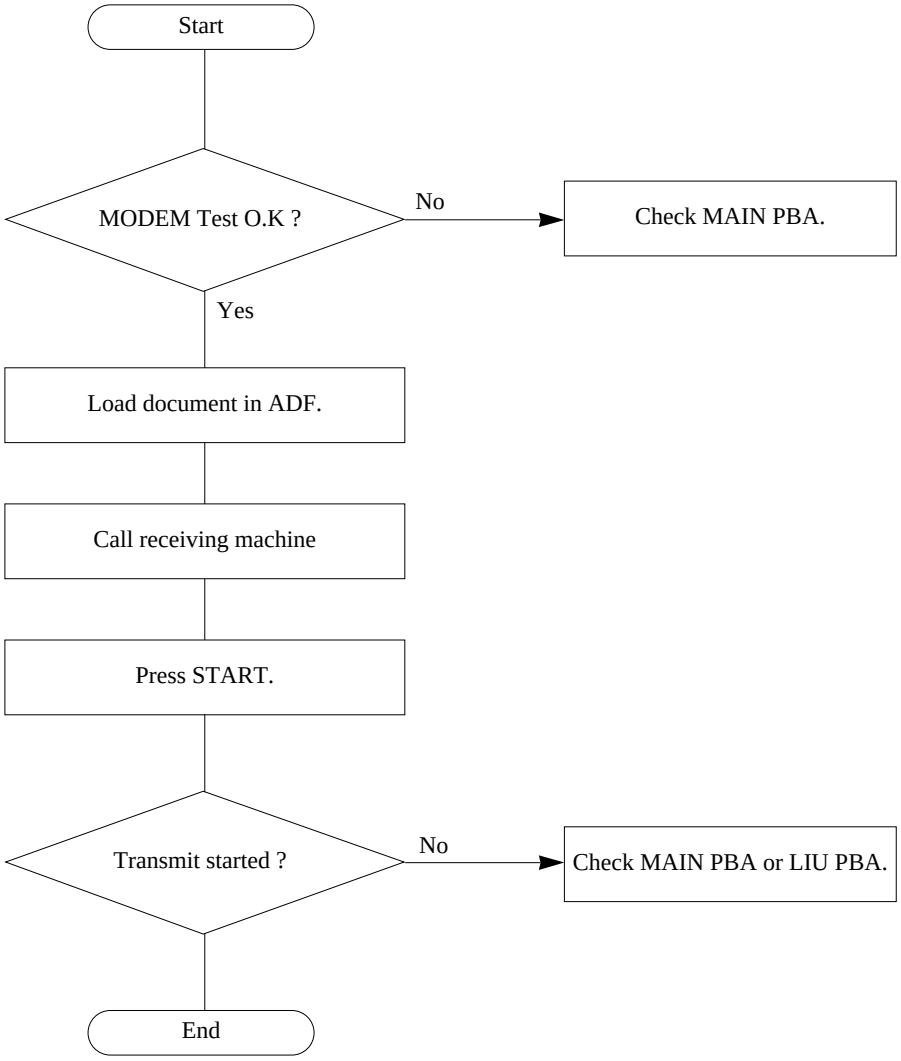
5.4.4 SYSTEM NOT INITIALIZED (System reset)



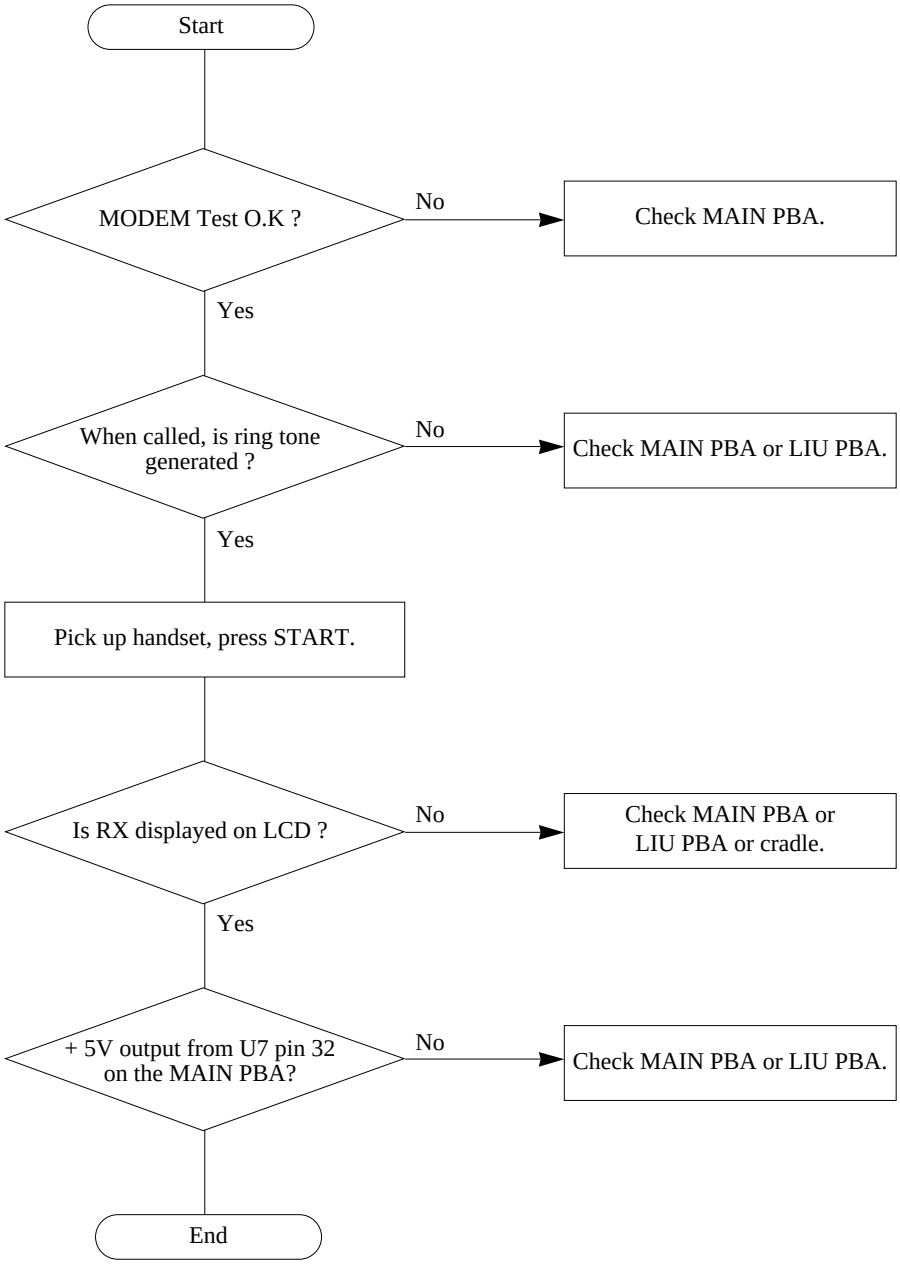
5.4.5 TROUBLE IN COPY MODE



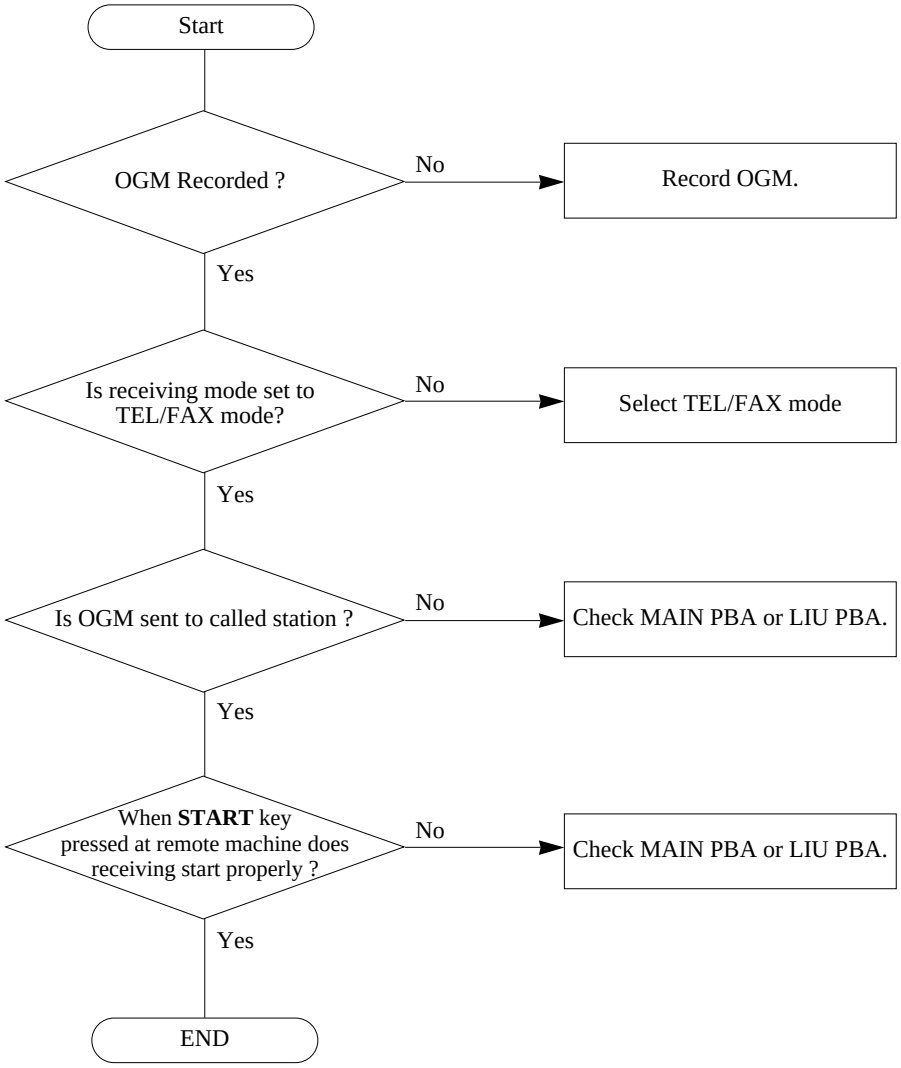
5.4.6 TROUBLE IN TRANSMISSION



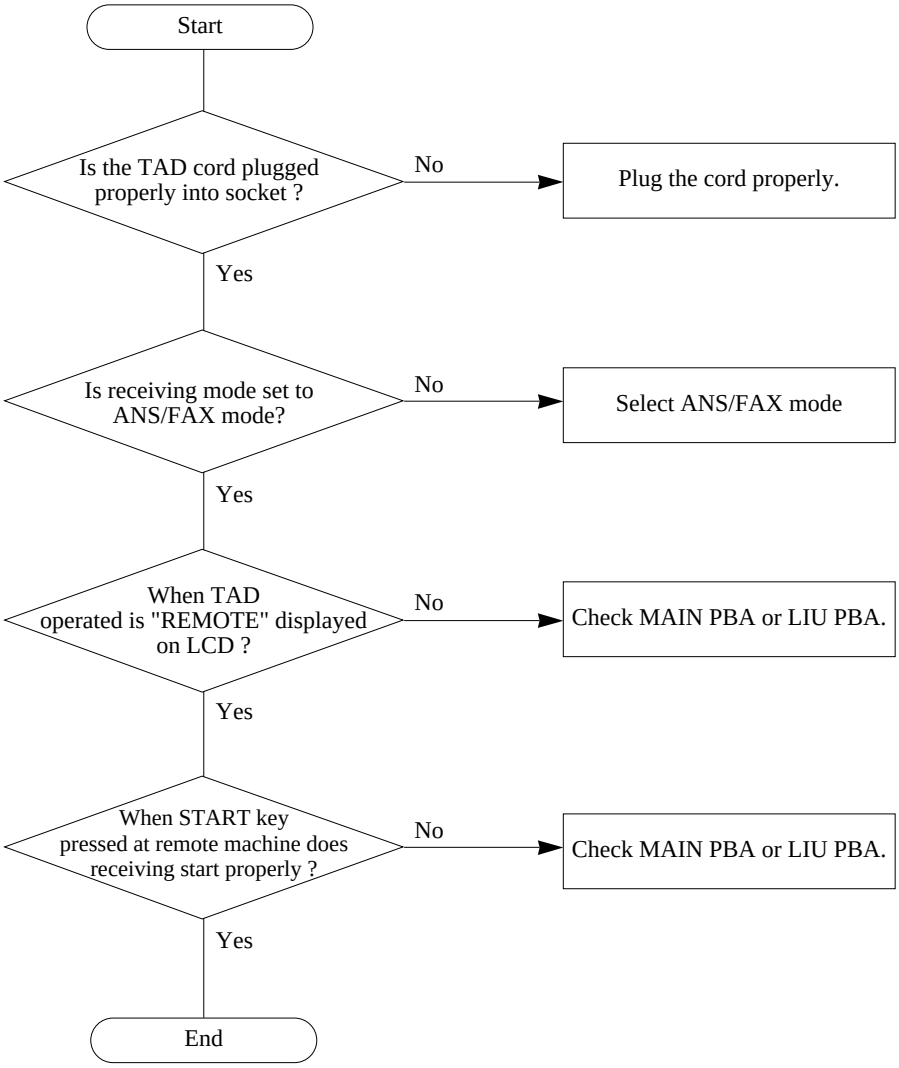
5.4.7 TROUBLE IN MANUAL RECEPTION MODE



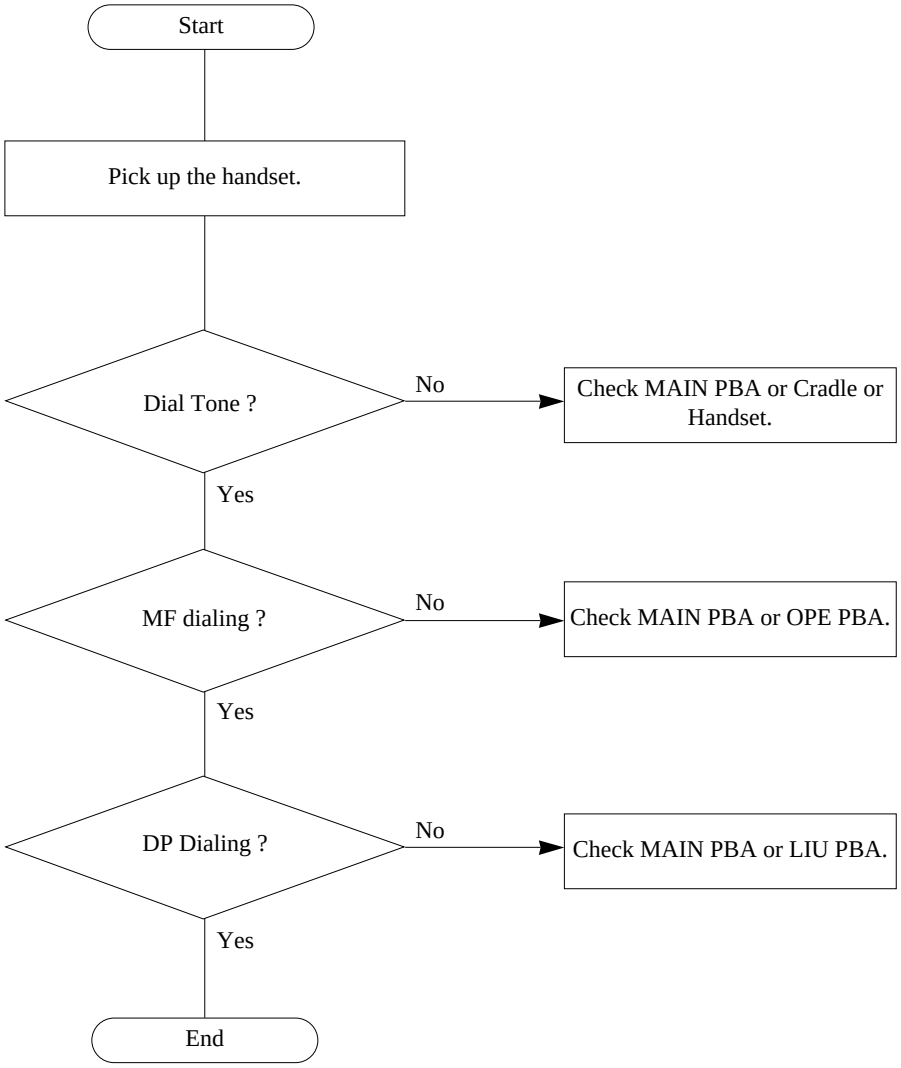
5.4.8 TROUBLE IN TEL/FAX AUTO-SWITCHING



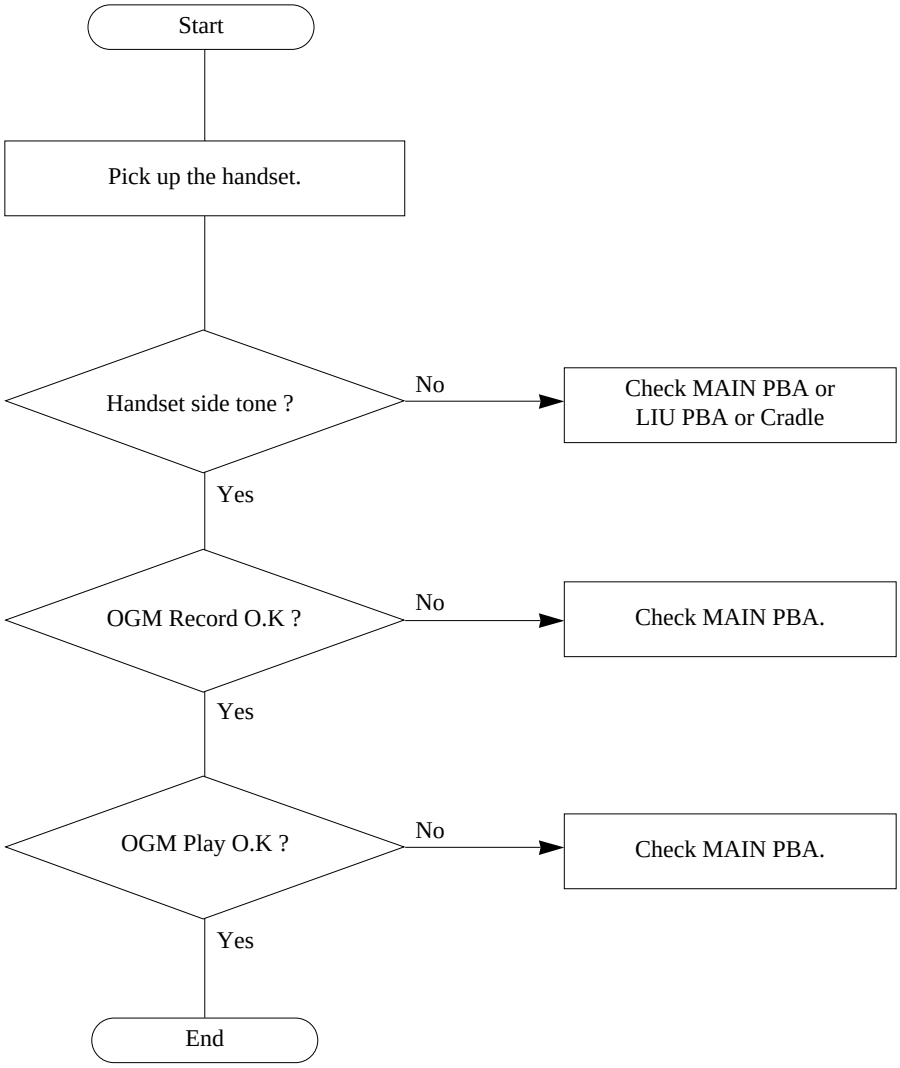
5.4.9 TROUBLE IN ANS/FAX AUTO-SWITCHING



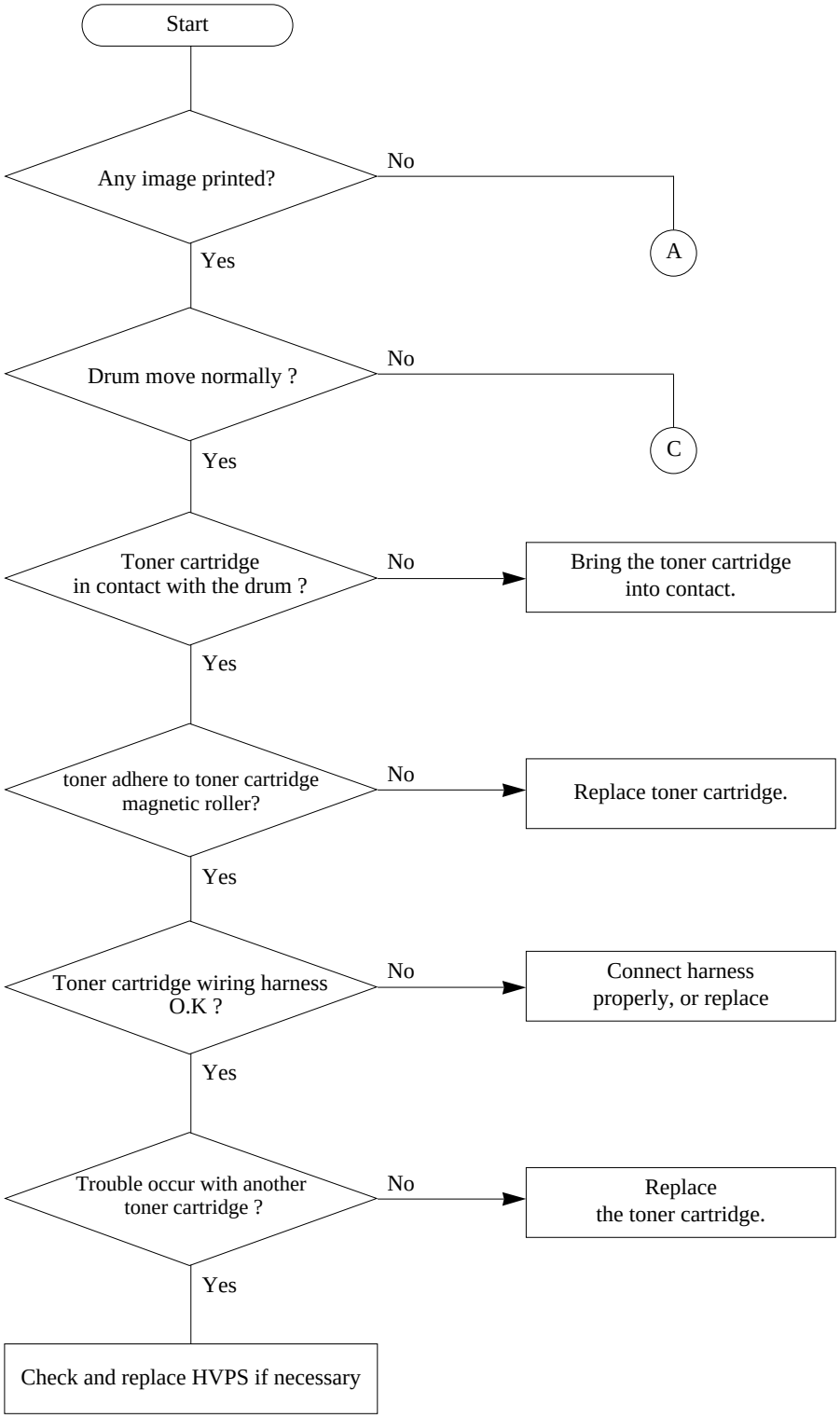
5.4.10 TROUBLE IN TELEPHONE OPERATION

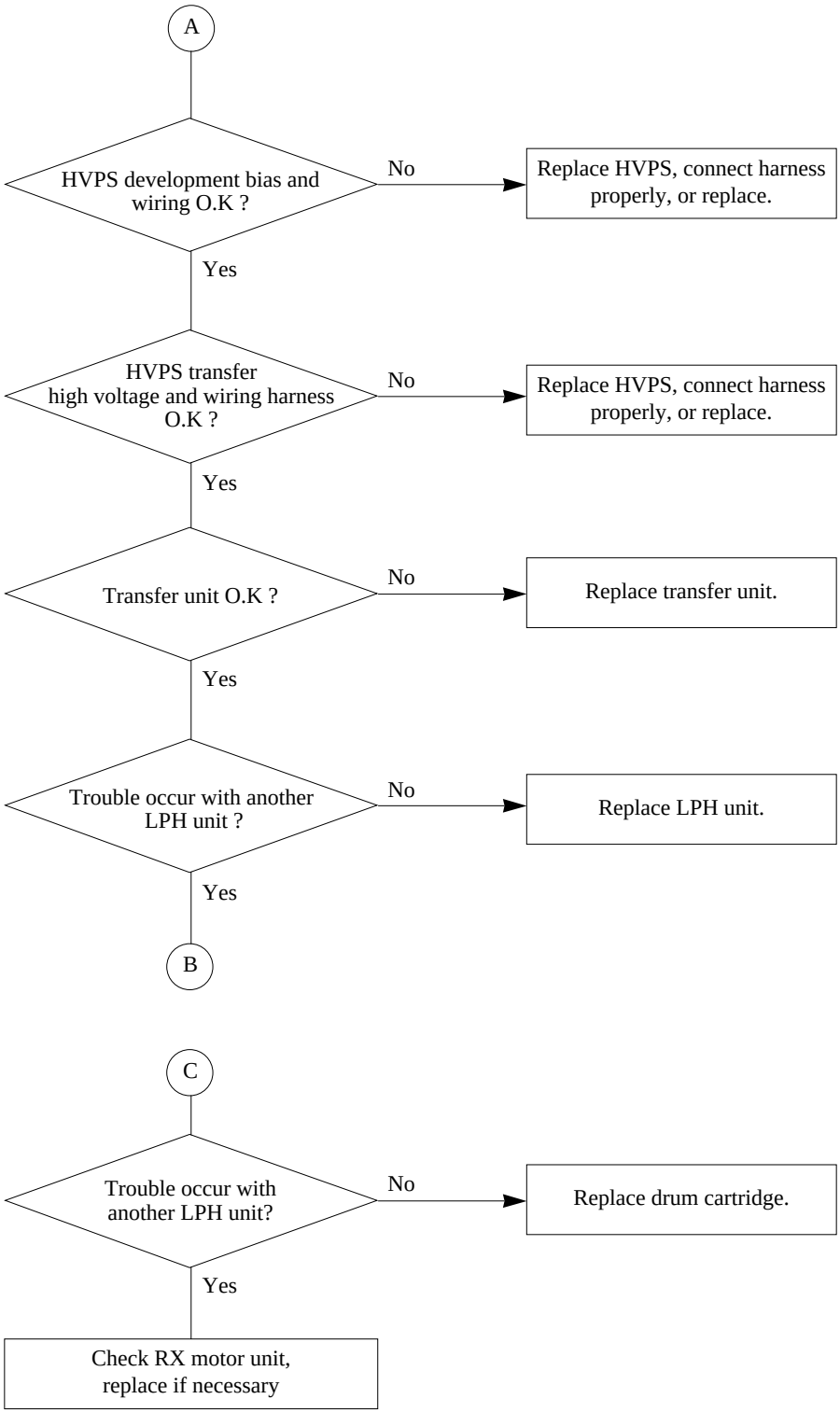


5.4.11 TROUBLE IN OGM RECORDING/PLAYING

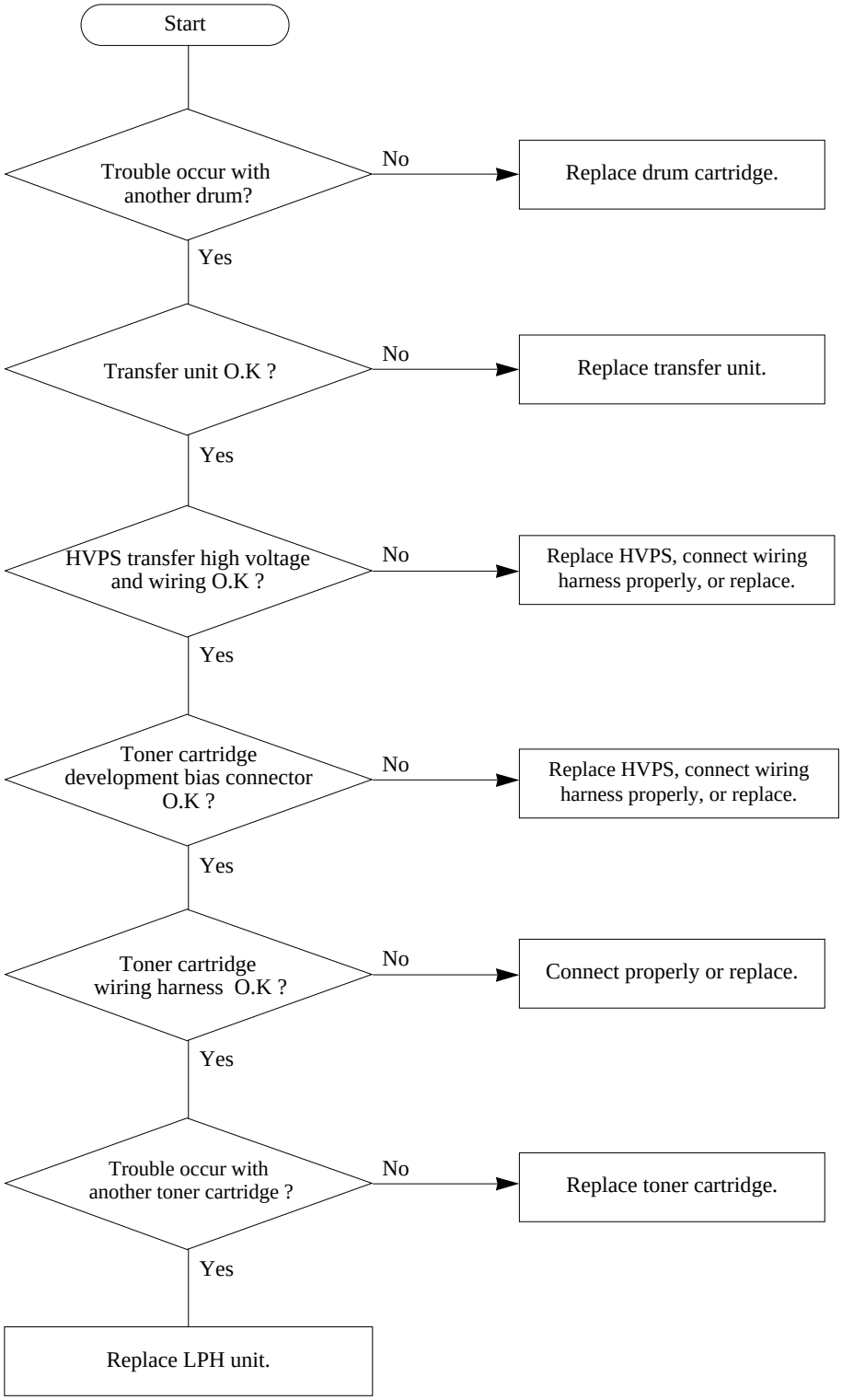


5.4.12 NO IMAGE ON PAPER (All White)

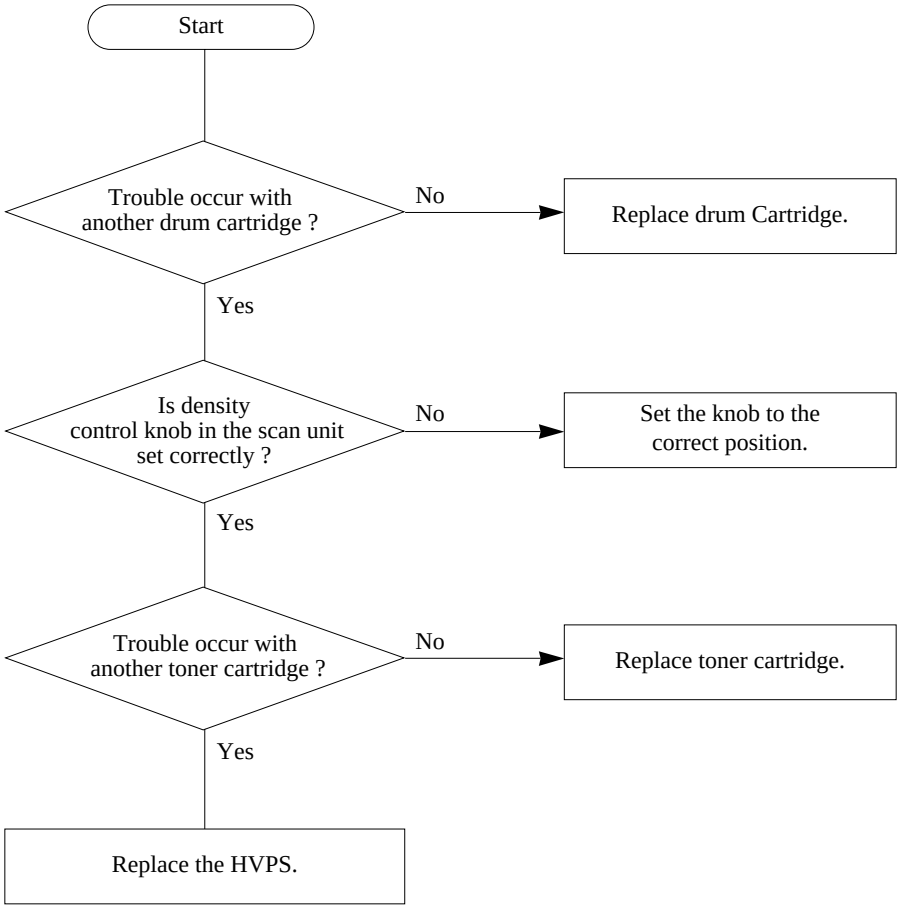



A
HVPS development bias and wiring O.K ?
No
Replace HVPS, connect harness properly, or replace.
Yes
HVPS transfer high voltage and wiring harness O.K ?
No
Replace HVPS, connect harness properly, or replace.
Yes
Transfer unit O.K ?
No
Replace transfer unit.
Yes
Trouble occur with another LPH unit ?
No
Replace LPH unit.
Yes
B
C
Trouble occur with another LPH unit?
No
Replace drum cartridge.
Yes
Check RX motor unit, replace if necessary

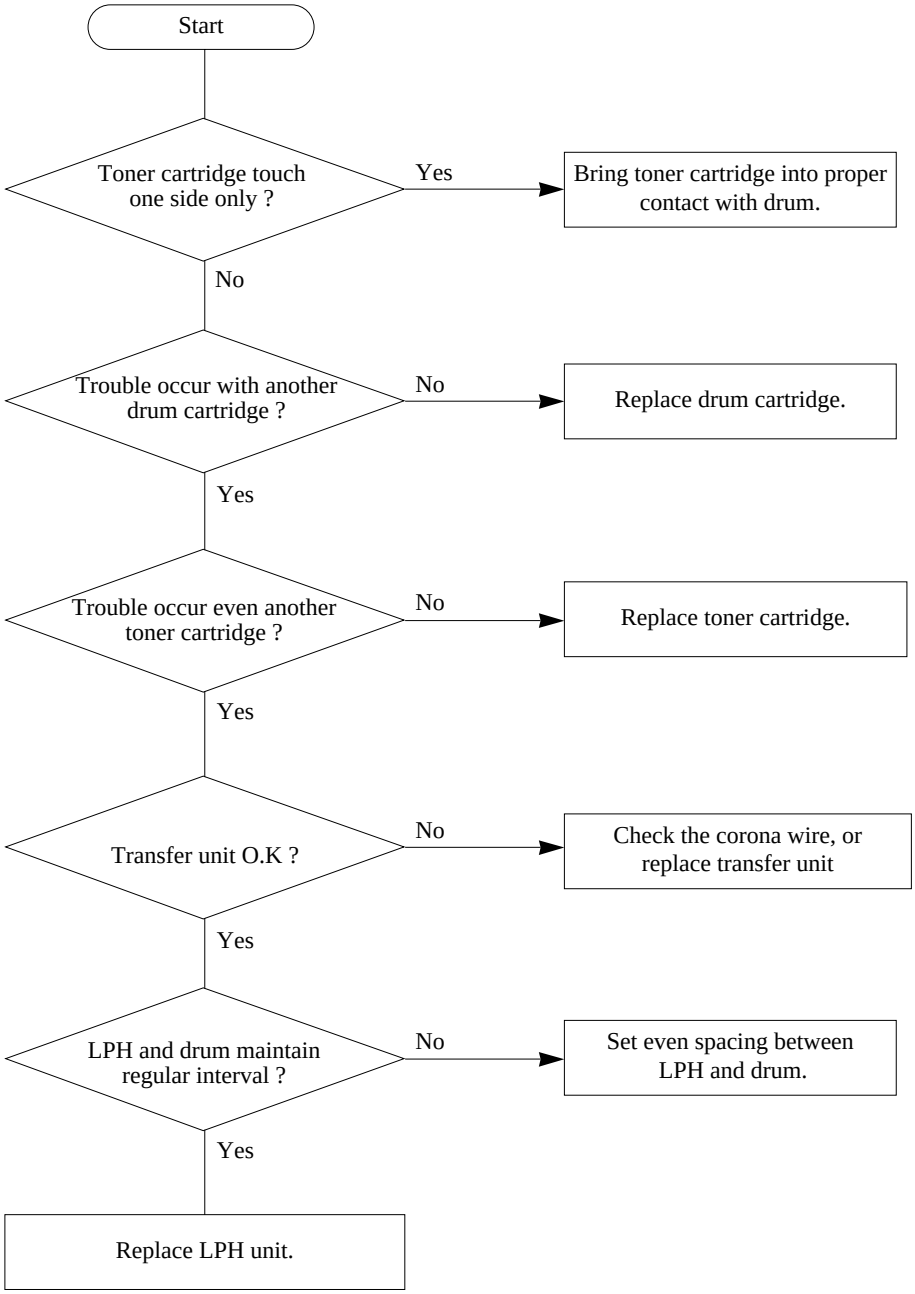
5.4.13 PALE/WEAK IMAGE



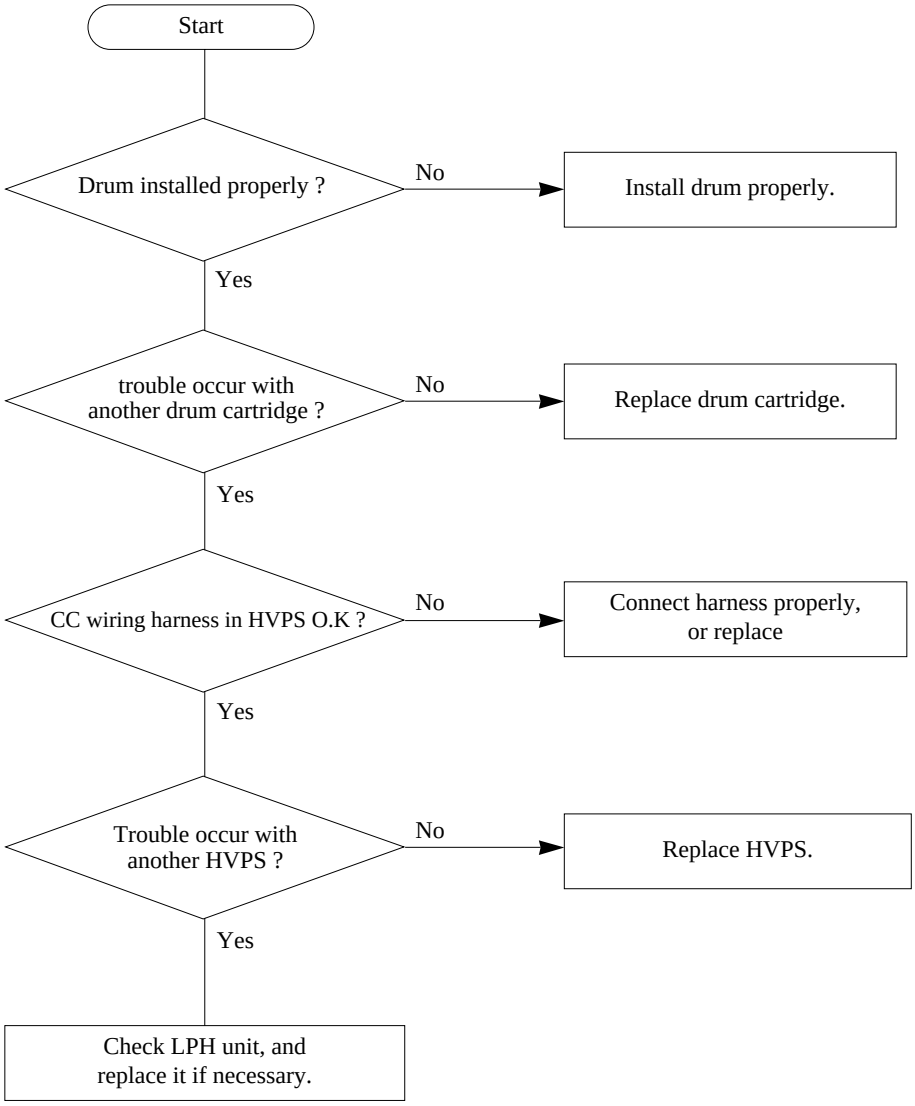
5.4.14 HIGH BACKGROUND DENSITY (Toner in background areas)



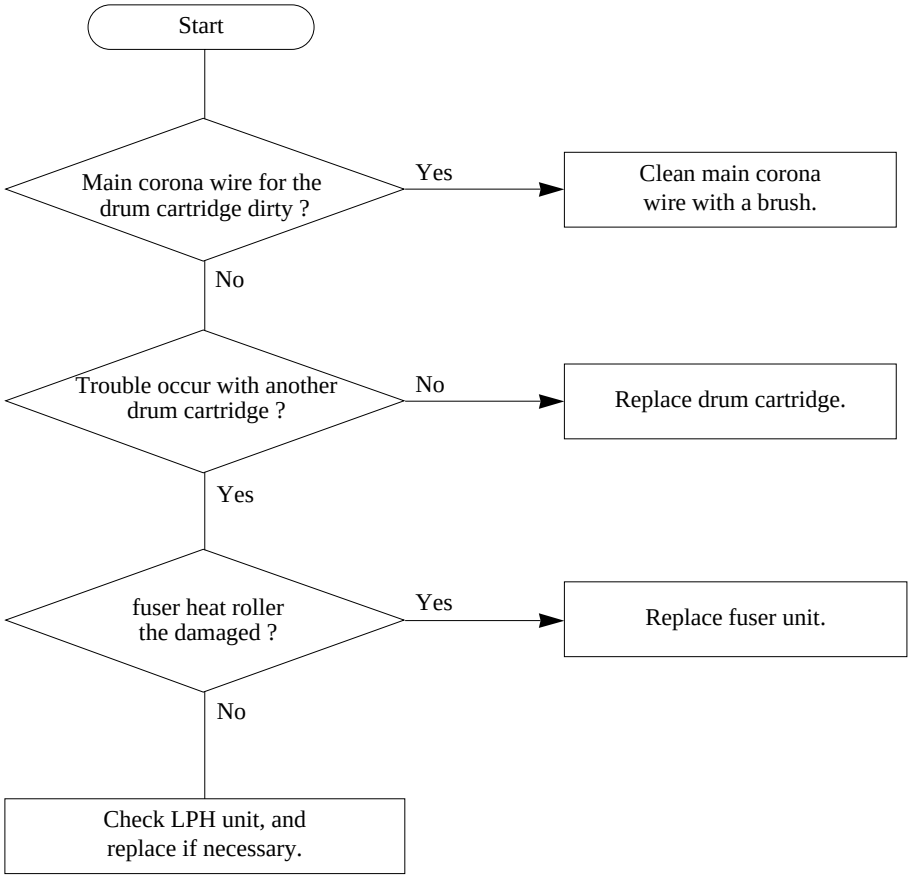
5.4.15 UNEVEN DENSITY



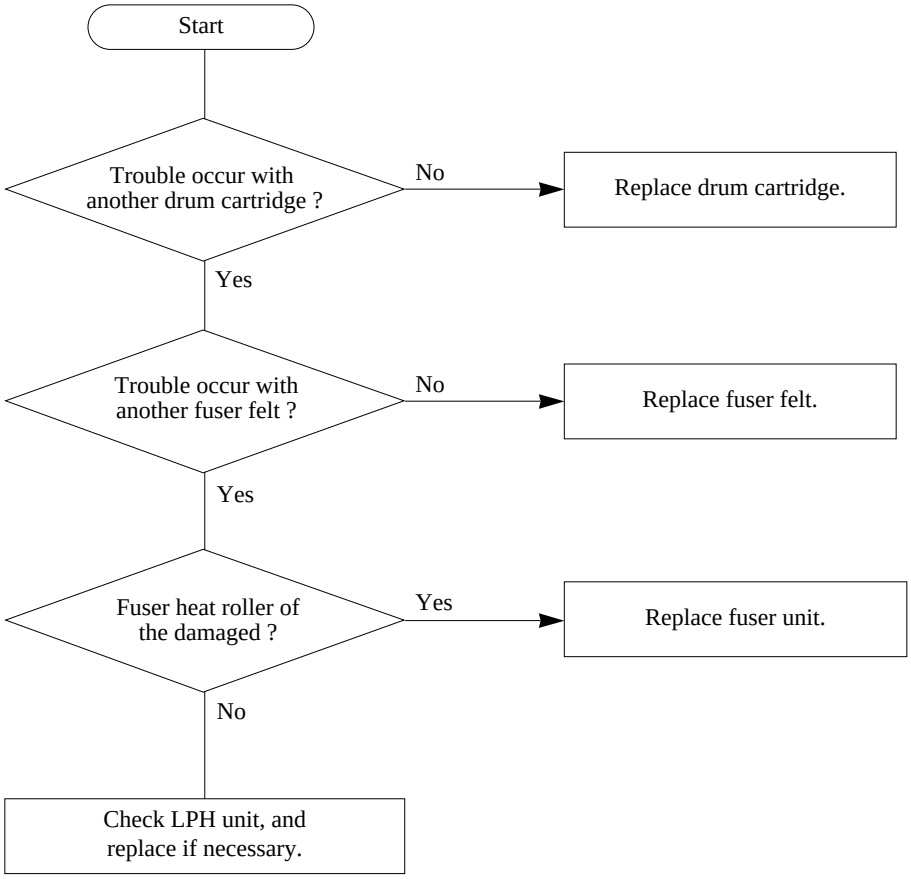
5.4.16 ALL BLACK PRINT



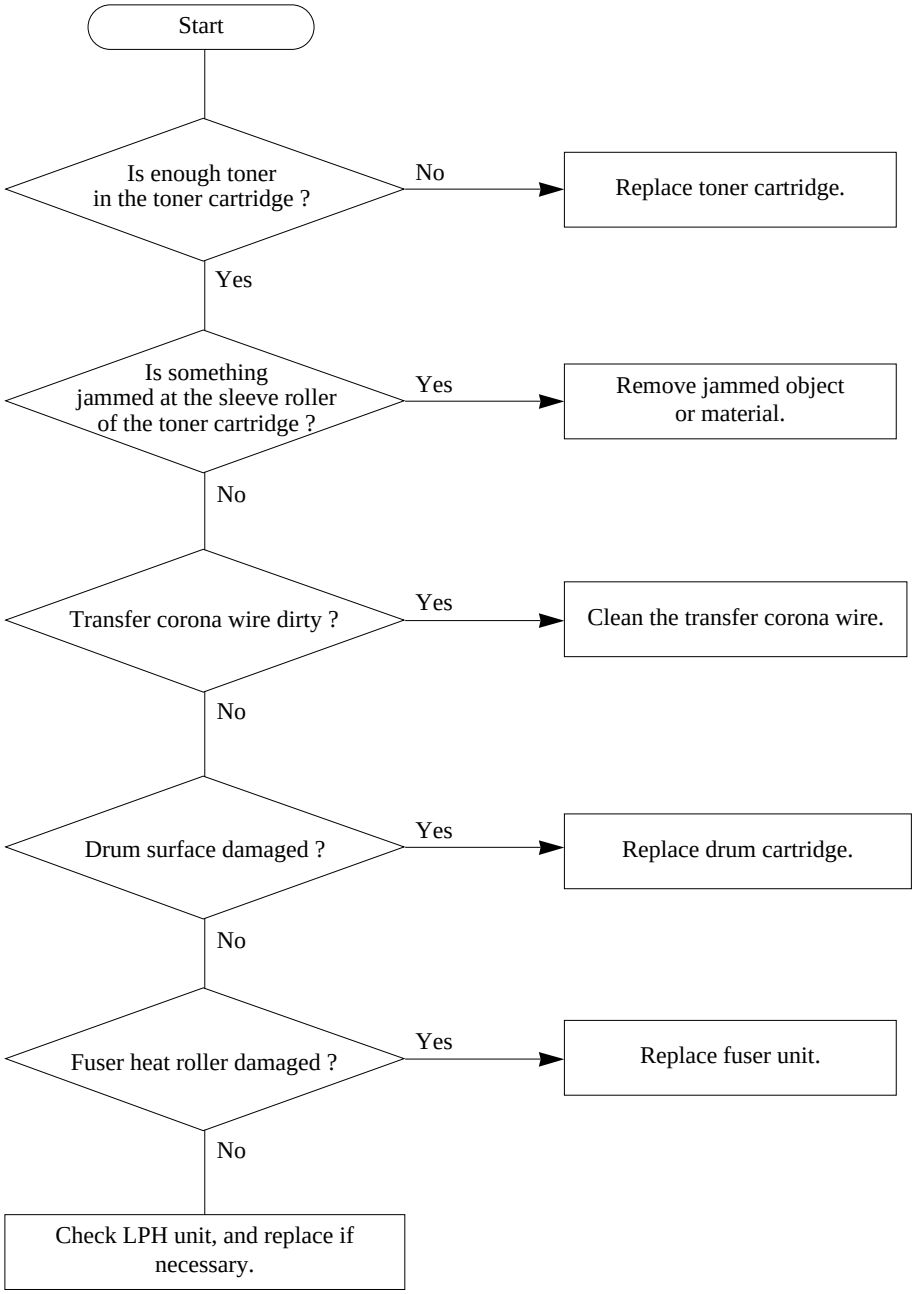
5.4.17 BLACK VERTICAL LINE



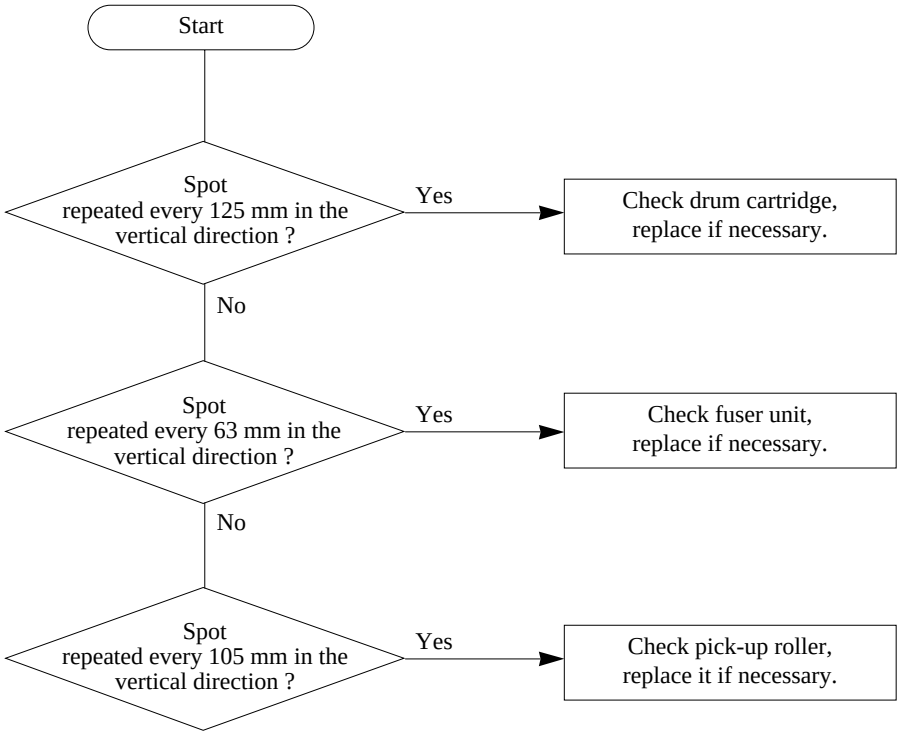
5.4.18 BLACK HORIZONTAL LINE



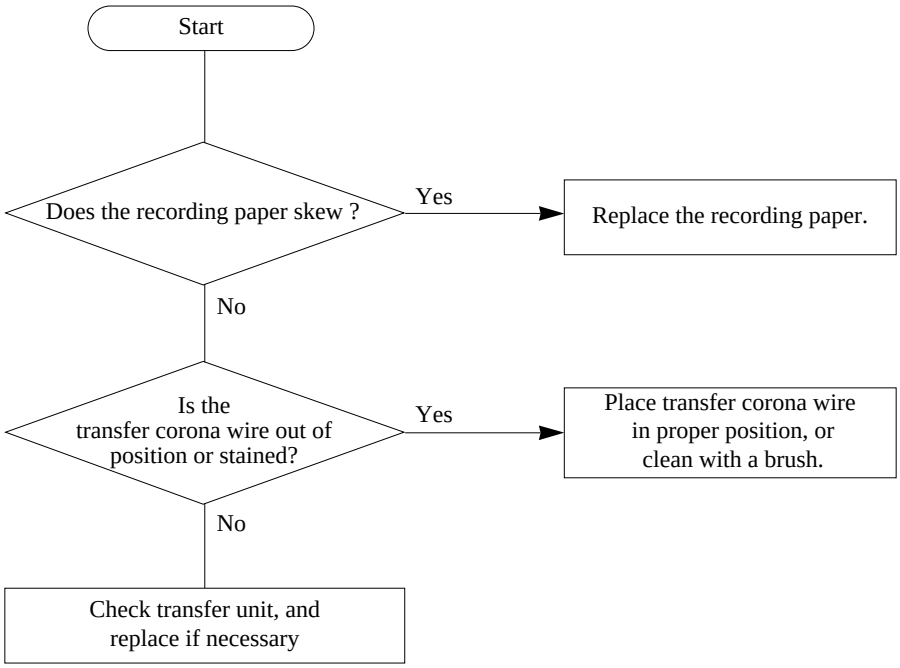
5.4.19 WHITE VERTICAL LINE



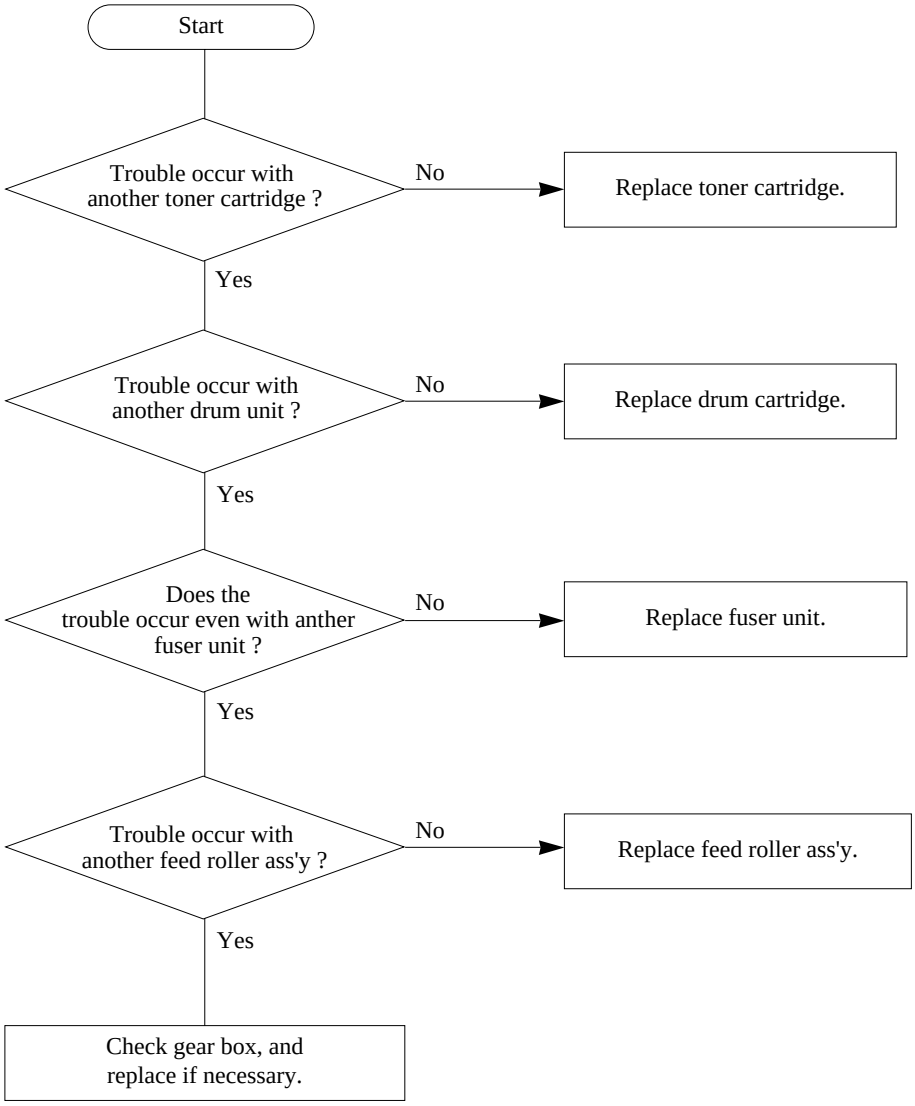
5.4.20 PERIODIC BLACK SPOT


Start
Spot repeated every 125 mm in the vertical direction ?
Yes
Check drum cartridge, replace if necessary.
No
Spot repeated every 63 mm in the vertical direction ?
Yes
Check fuser unit, replace if necessary.
No
Spot repeated every 105 mm in the vertical direction ?
Yes
Check pick-up roller, replace it if necessary.

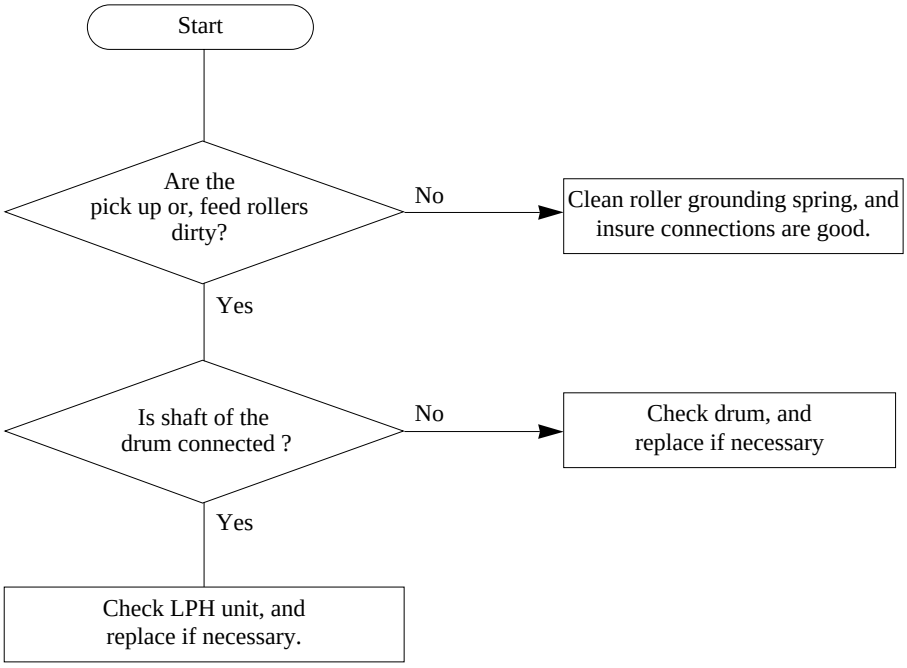
5.4.21 VOID IN THE IMAGE


Start
Does the recording paper skew ?
Yes
Replace the recording paper.
No
Is the transfer corona wire out of position or stained?
Yes
Place transfer corona wire in proper position, or clean with a brush.
No
Check transfer unit, and replace if necessary

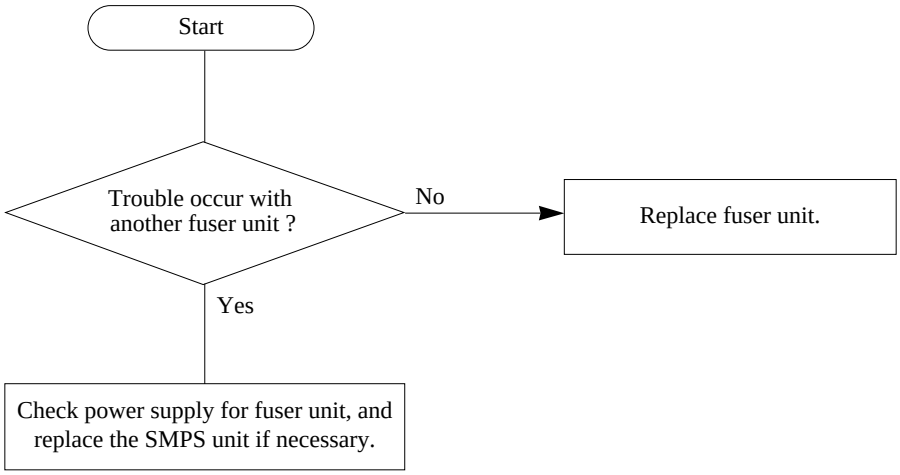
5.4.22 IMAGE SHAKE/JITTER



5.4.23 IMAGE NOISE


Start
Are the pick up or, feed rollers dirty?
No
Clean roller grounding spring, and insure connections are good.
Yes
Is shaft of the drum connected ?
No
Check drum, and replace if necessary
Yes
Check LPH unit, and replace if necessary.

5.4.24 INCOMPLETE FUSING


Start
Trouble occur with another fuser unit ?
No
Replace fuser unit.
Yes
Check power supply for fuser unit, and replace the SMPS unit if necessary.

CHAPTER 6

Removals and Replacements

Chapter 6 REMOVALS AND REPLACEMENTS

6.1 REPLACEMENT OF THE CONSUMABLE (Toner, Drum, Fuser Felt)

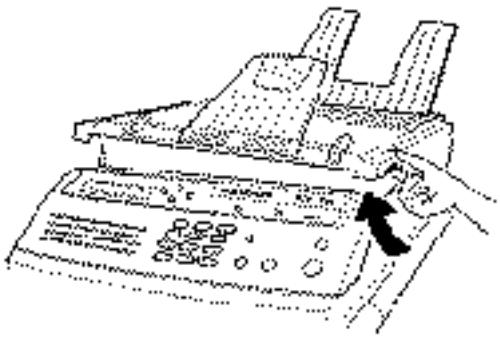
When the toner supply is low, a TONER LOW message will be displayed. Approximately 200 pages can still be printed before the toner supply runs out completely and the toner cartridge must be replaced.

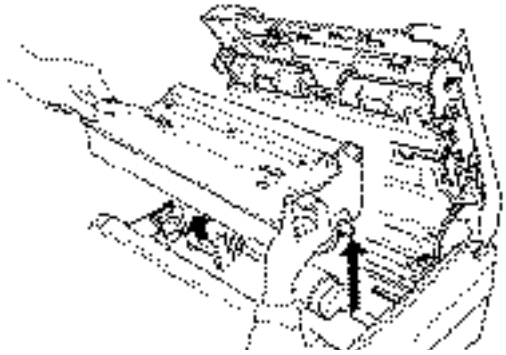
When the toner supply is completely depleted, TONER EMPTY appears in the display.

When you replace the toner cartridge, you have to replace the drum cartridge and the fuser felt as well.

Supplies are available by contacting your local samsung Business systems representative.

1. Open the top cover by lifting up the cover release lever.

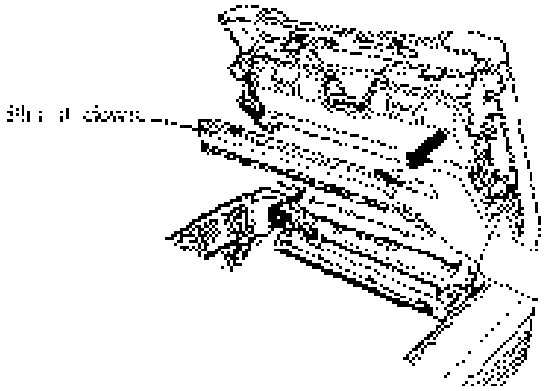




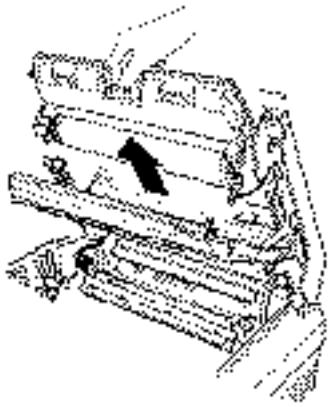
2. Hold the toner cartridge by the end tabs and remove the used cartridge.

3. Take a new toner cartridge out of the foil bag and install the new cartridge as described in "Installation of the Toner Cartridge" on page 2-3.

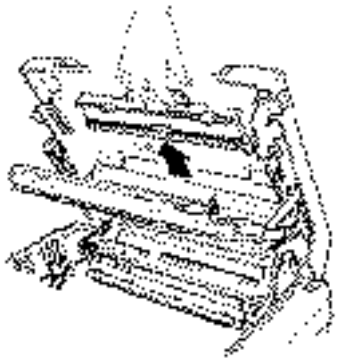
4. Flip down the tab on the top of the holder and lower the top cover halfway.



5. Hold the handle of the used drum cartridge and remove the cartridge by pulling it out of the unit.



6. Hold the handle of the fuser felt and remove the fuser felt by pulling it out of the unit.



7. Install a new drum cartridge and a fuser felt as described in "Installing Drum Cartridge" and "Installing the Fuser Felt" on page 2-4 and 2-5.

Notes

- Do not expose the drum cartridge to direct room light or sunlight for more than a few minutes.
- Do not place the drum cartridge neat a window or in an area subject to high heat (above 50°F) or high humidity (above 80 %)
- Do not touch the drum surface. Lift the drum cartridge by the handle only.
- Keep the drum cartridge away from dust and dirt.

6.2 REPLACEMENT OF COMPONENTS

6.2.1 GENERAL NOTES AND CAUTIONS

While removing and installing the components, it is necessary to use extreme caution. The close proximity of cables to moving parts makes proper routing a must. If modules are removed or replaced, any cables disturbed by the procedure must be restored as close as possible to their original positions. Before removing any module from the machine, note the cable routing that will be affected.

Take the following precautions whenever servicing the machine.

1. Check to verify that no documents are stored in memory. If so, wait until memory is empty.

2. Turn off the power switch and unplug the power cord.

3. Unplug all line cord.

4. Remove the recording paper cassette, all trays, toner cartridge, drum cartridge, and fuser felt.

5. Place the drum and toner cartridges in a safe place away from light.

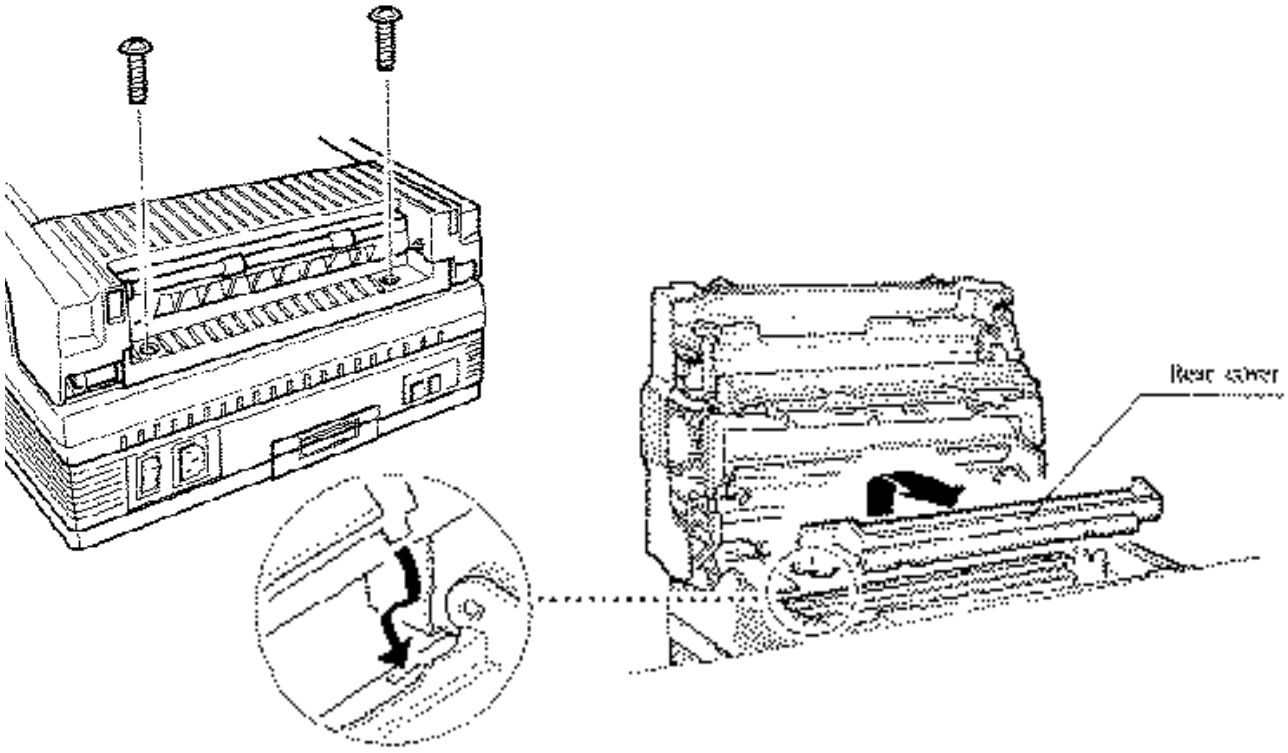
The following are removal instructions for the major components of the fax machine. Generally, replacement procedures are the reverse of those for removing components. Where a replacement procedure differs from the way the component is removed, or where a particular aspect of a replacement procedure needs clarification, a reassembly note is provided.

6.2.2 REAR COVER

Note: When installing the rear cover, insert three ribs of the rear cover into the corresponding holes of the middle cover.

1. Remove the two screws from the rear cover.

2. open the top cover and remove the rear cover.



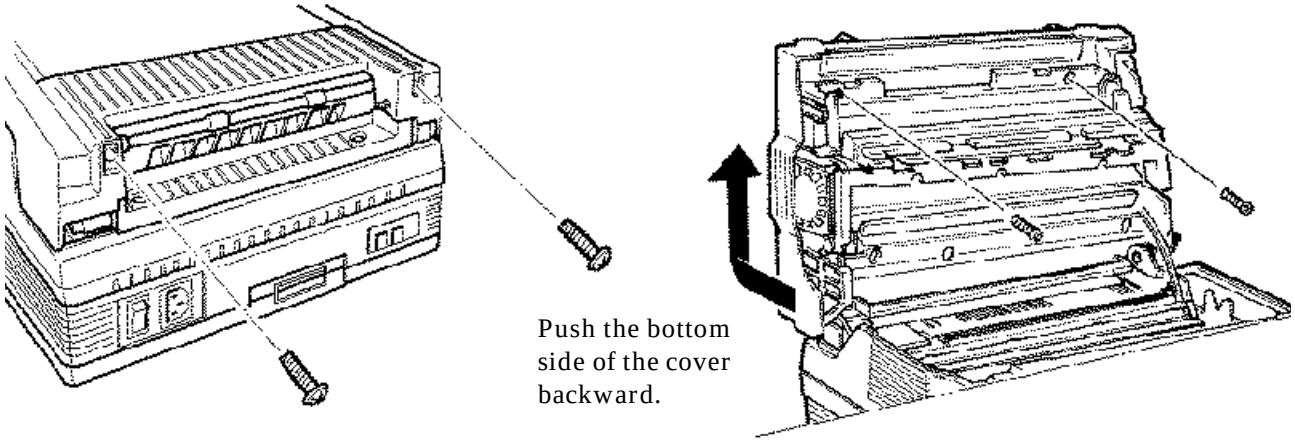
6.2.3 TOP COVER

Note: When installing, close the top cover frame then replace the cover, and reverse the removal procedure.

1. Remove the two screws from the top cover.

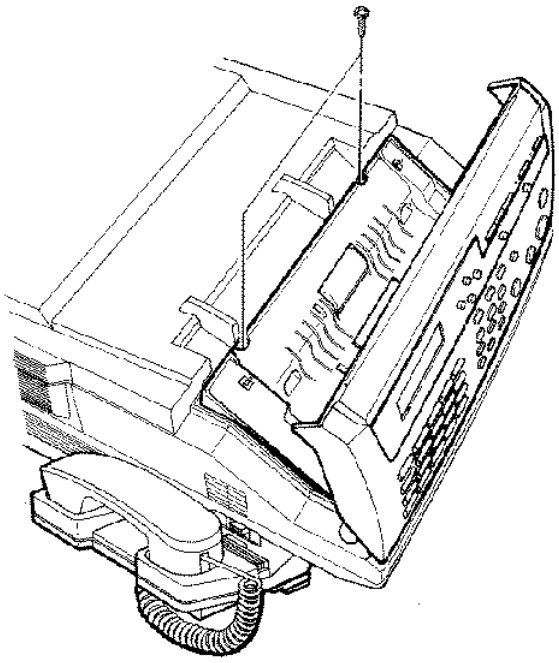
2. Open the top cover and remove the two screws.

3. Lift the top cover up while pushing the rear end of the cover backward.



6.2.4 SCANNER MECHANISM ASS'Y

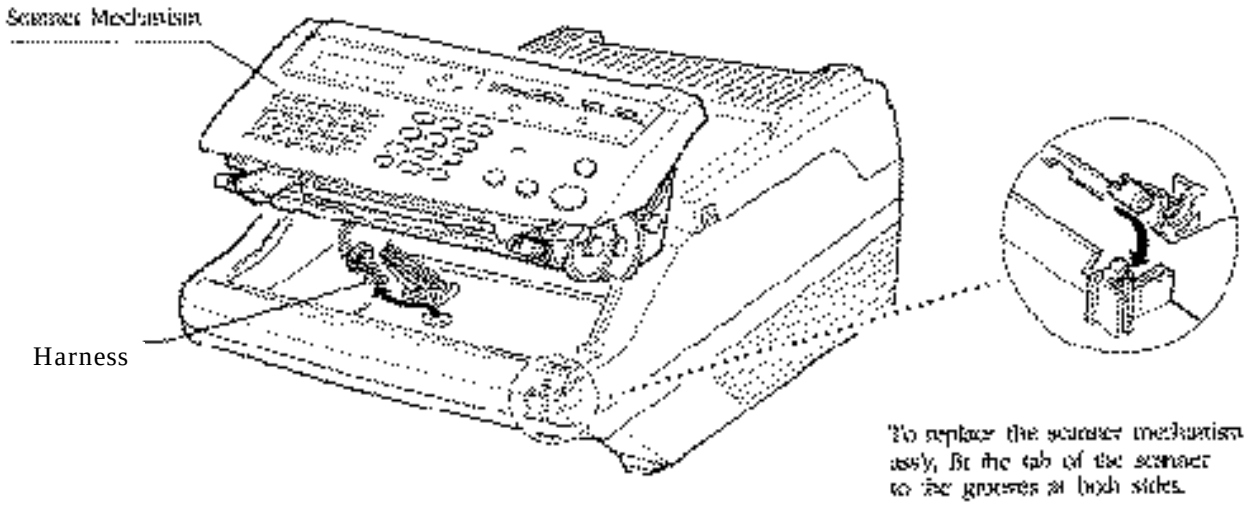
1. Open the control panel and remove the two screws.



2. Close the control panel and remove the scanner mechanism assembly. When you remove the assembly, do not lift it directly up. Pull the cover by rotating slightly toward you away from the base frame.

3. Unplug the connector from the main PBA.

Note: When replacing the scanner mechanism assembly, be sure that the assembly fits to the groove on the base frame as shown in the circle.

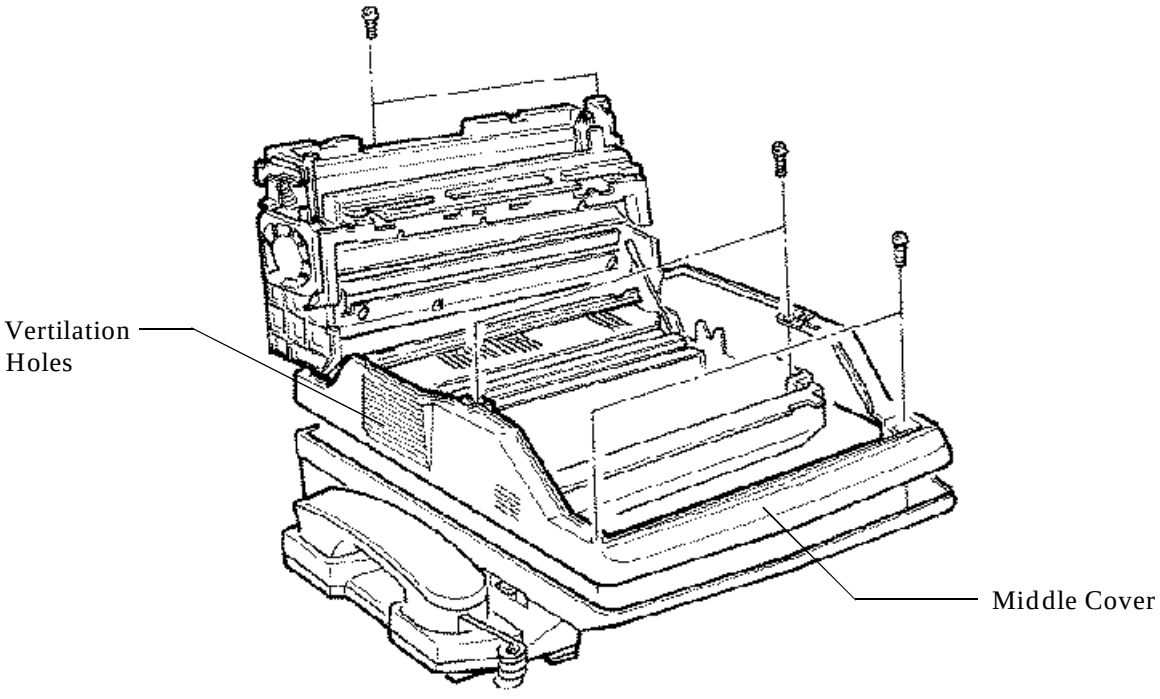


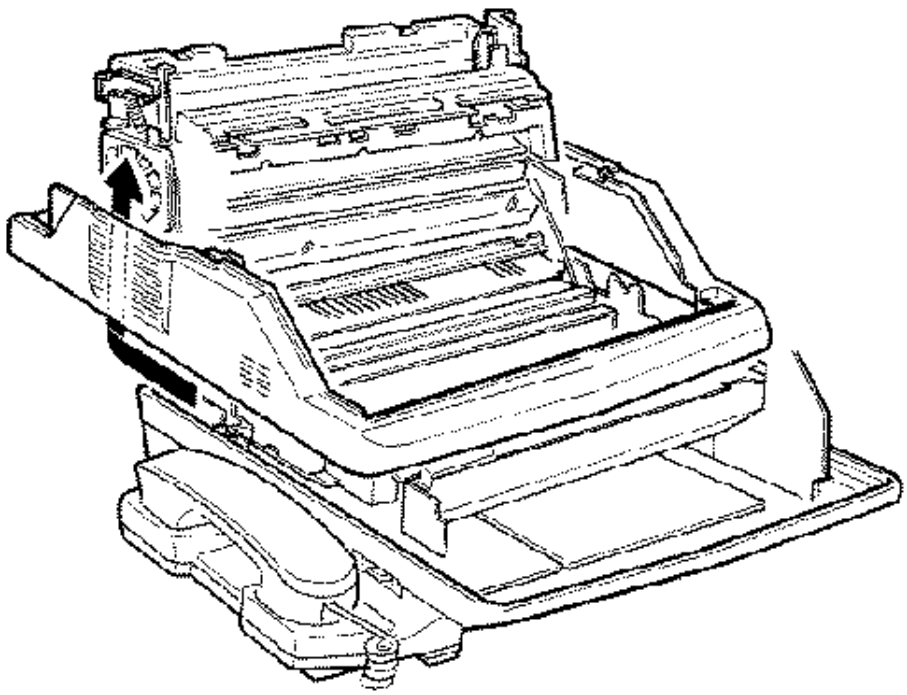
6.2.5 MIDDLE COVER

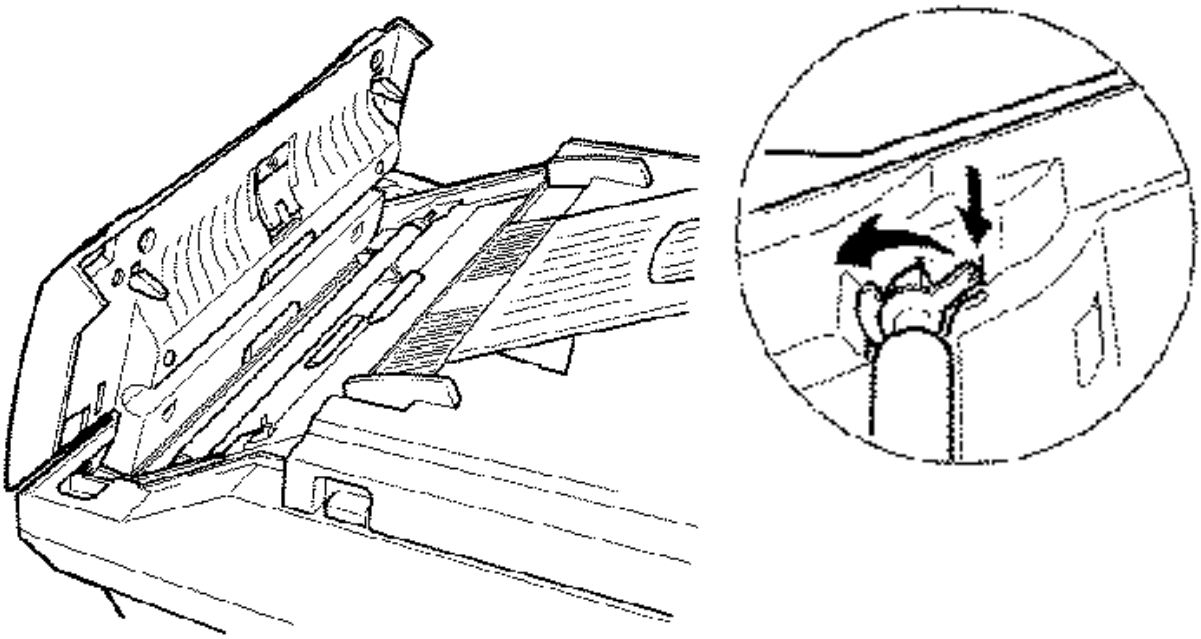
1. Remove the scanner mechanism assembly, rear cover, and top cover.

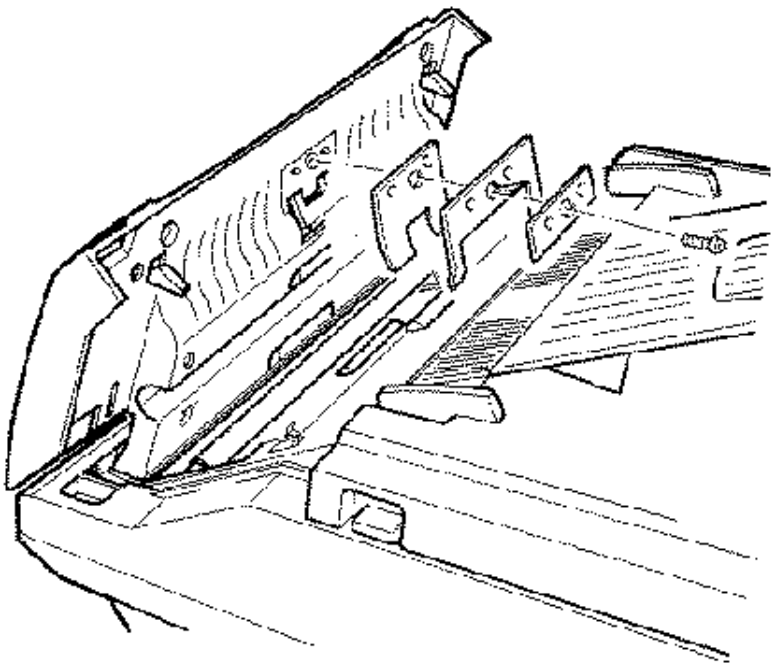
2. Remove the six screws securing the middle cover

3. Before lifting up the middle cover, slide it backward until the ventilation holes on the cover aligns with the stand-up frame, then lift it up.





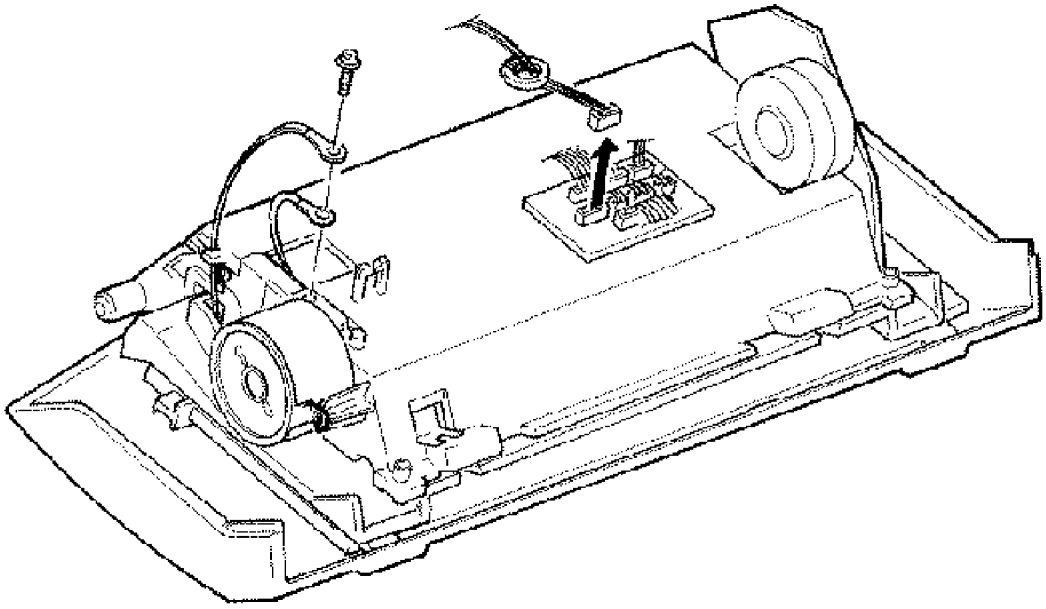


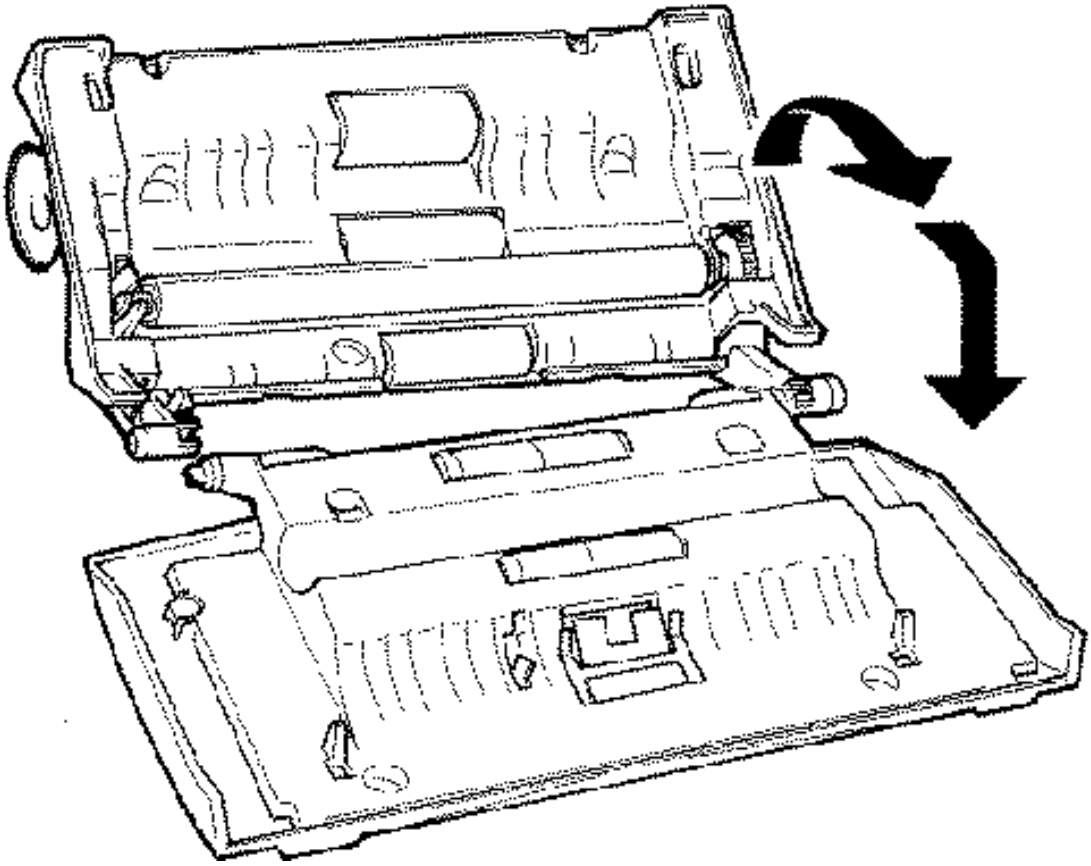


6.2.6 WHITE ROLLER ASSEMBLY

1. Open the control panel.

2. Push the bushing on the both end of the roller slightly inward, then rotate it until it reaches the slot as shown in the figure below. Then lift the roller up.

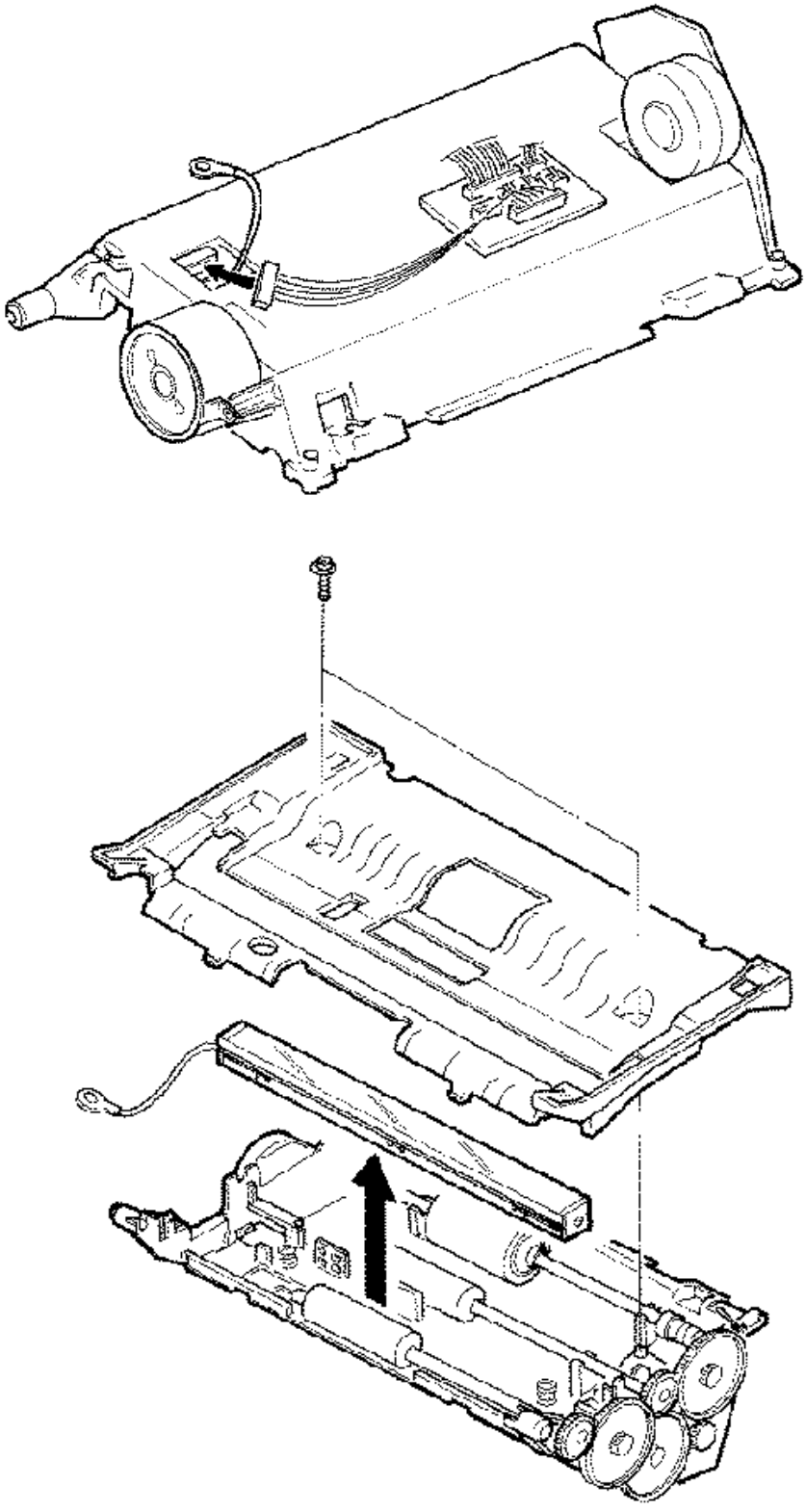




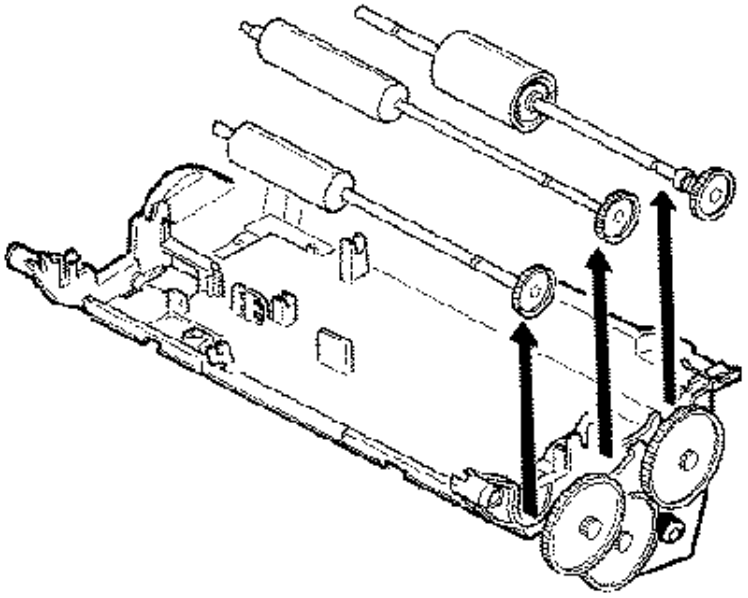
6.2.7 ADF RUBBER PAD

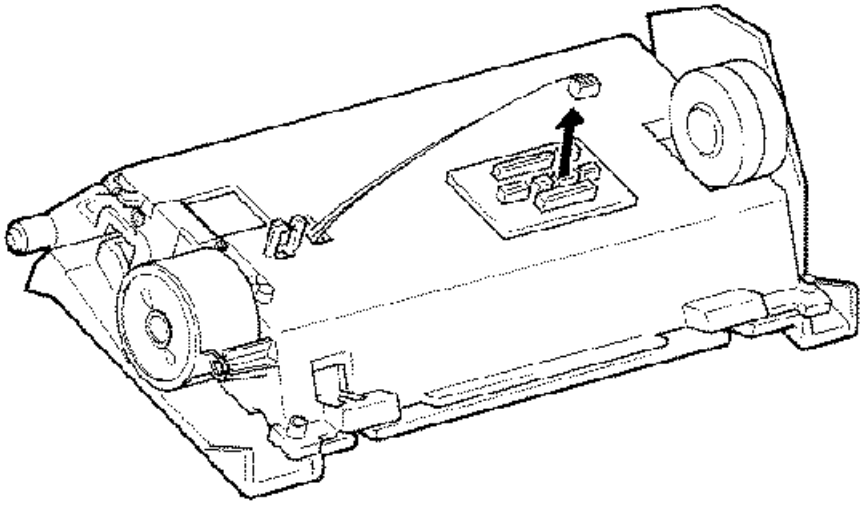
1. Open the control panel.

2. Remove the one screw securing the ADF pad. The ADF plate, ADF spring, and ADF rubber pad are



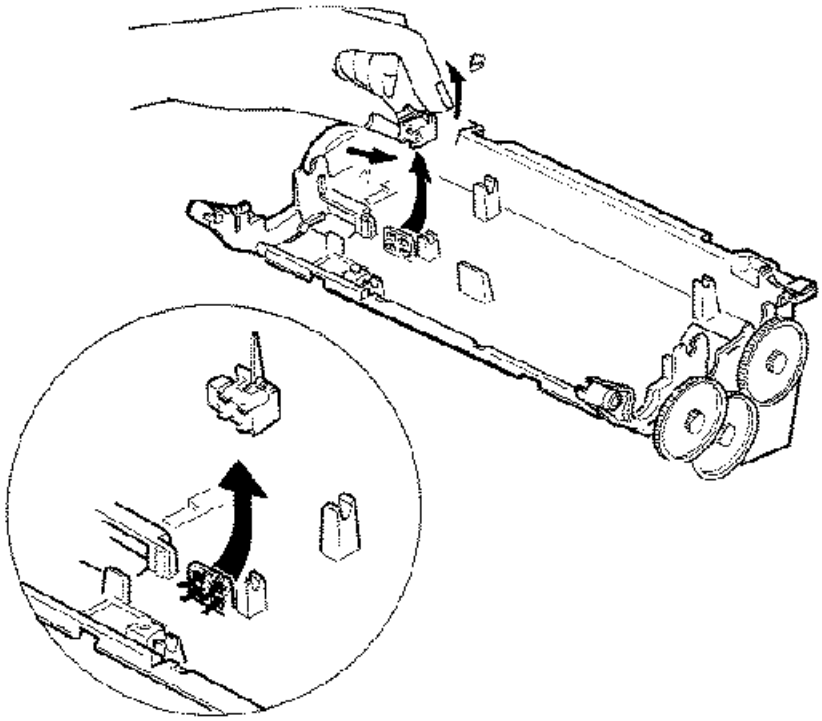
separated.





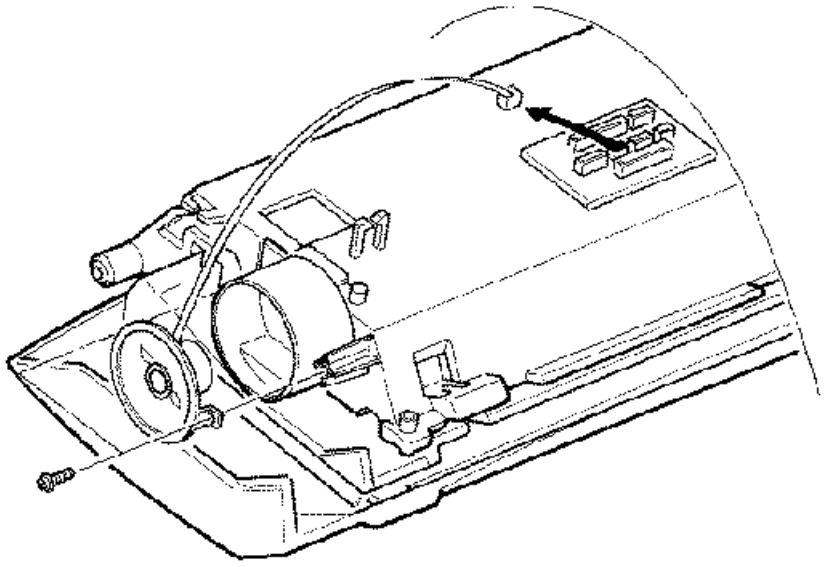
6.2.8 OPERATION UNIT

1. Remove the scanner mechanism assembly.



2. Turn the scanner assembly upside down and unplug the ope connector from the scan PBA and remove the one earth screw.

3. Open the operation panel completely to separate the operation unit from the scanner



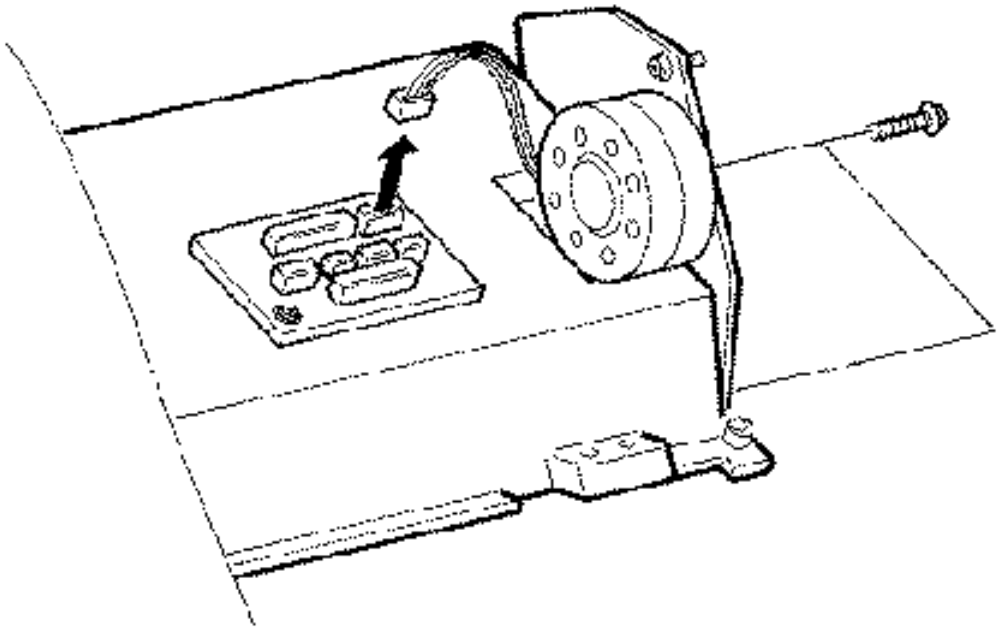
6.2.9 CIS

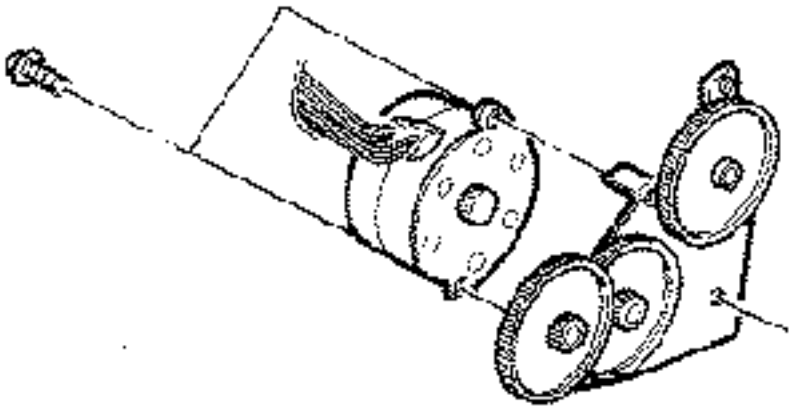
Note: When replacing the scan paper guide, be sure that the guide fits to the hole on the front end of the scanner unit.

1. Remove the scanner mechanism assembly. Remove the white roller.

2. Turn the scanner assembly upside down and unplug the connector from the CIS.

3. Remove the two screws securing the scan paper guide. Take out the scan-paper guide.



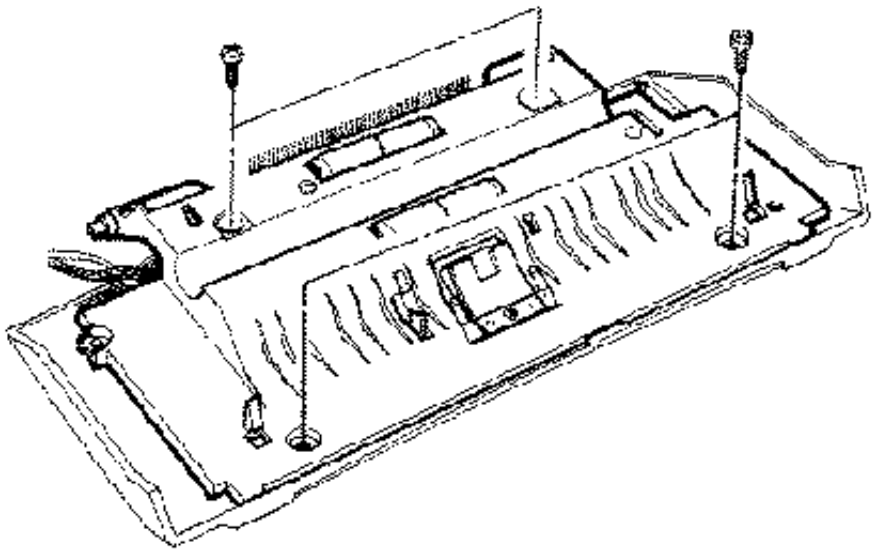


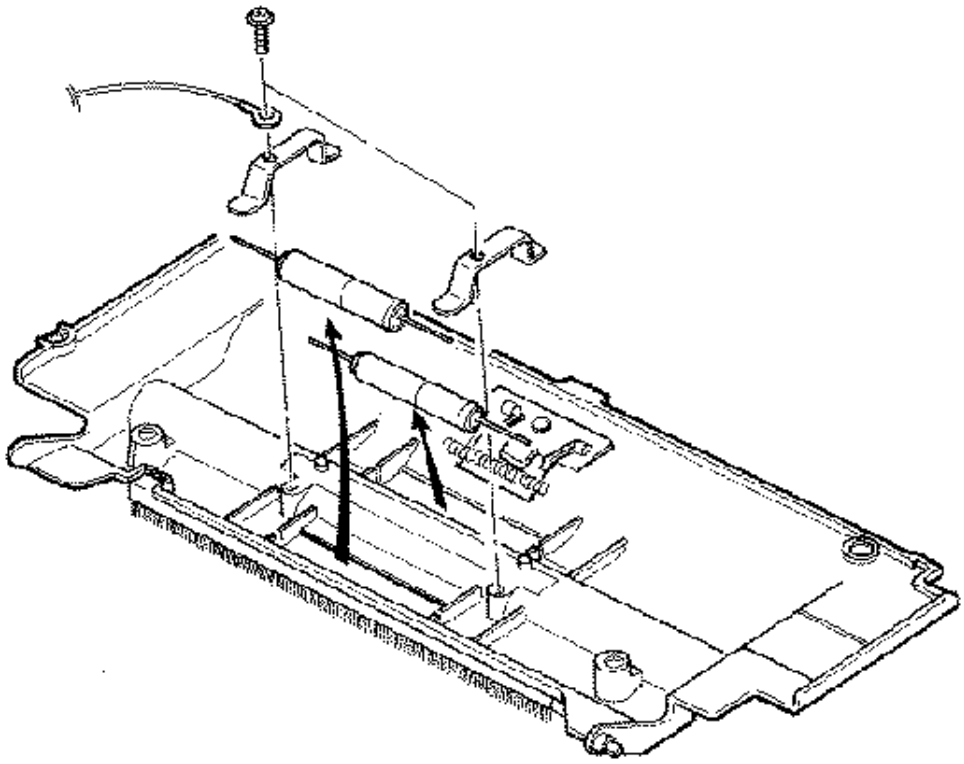
6.2.10 ROLLERS (ADF, FEED, P.EXIT)

1. Remove the scanner mechanism assembly, operation unit and white roller assembly

2. Remove the two screws securing the scan paper guide. Take out the scan paper guide.

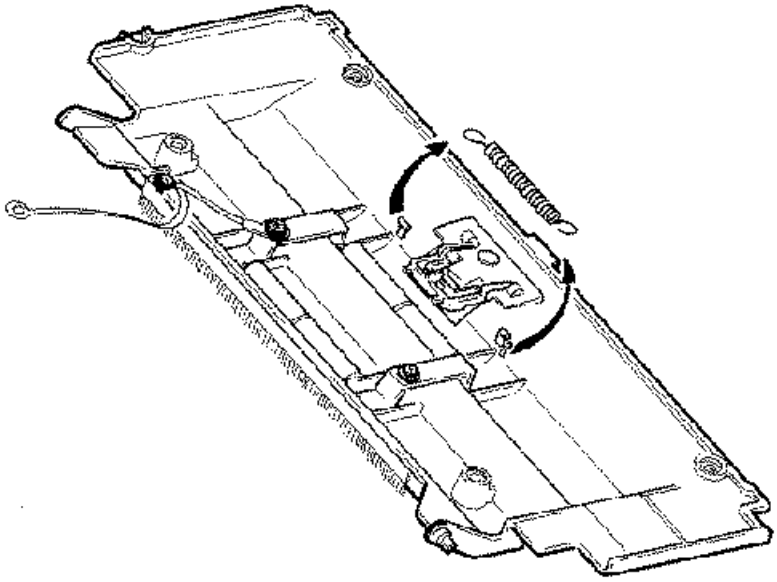
3. Take out the rollers.



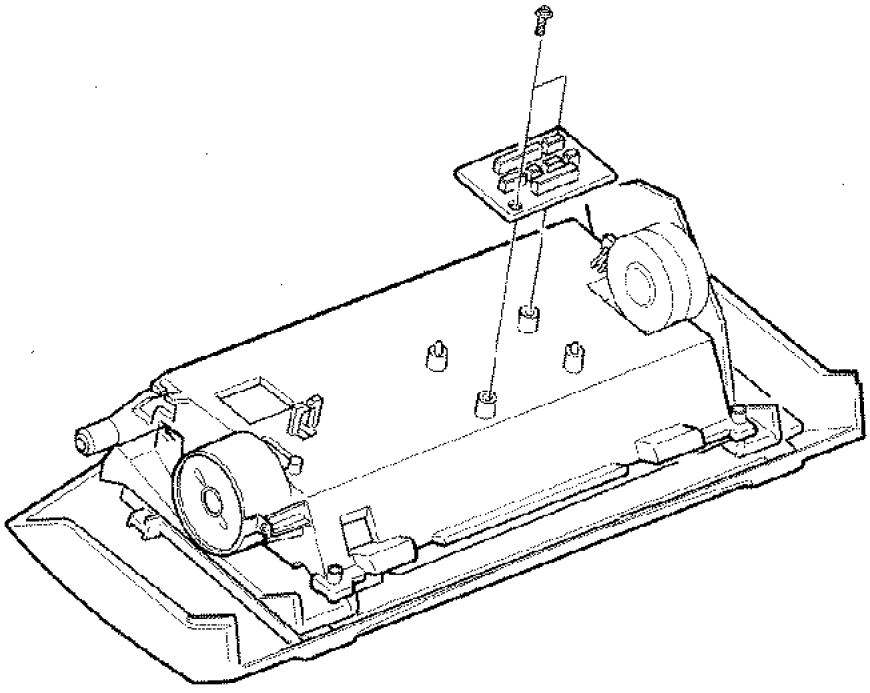


6.2.11 DOCUMENT SCAN SENSOR

1. Remove the scanner mechanism assembly, operation unit, and white roller assembly.

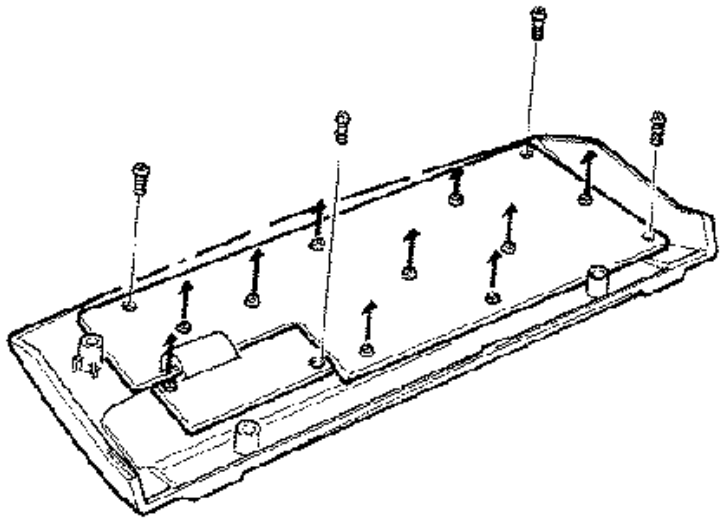


2. Turn the scanner unit upside down and unplug the sensor connector from the scan PBA.



3. Remove the two screws securing the scan paper guide. Take out the scan paper guide.

4. Take out the document sensor while pressing down one end of the sensor using your thumb and lifting up the other end of the sensor with another finger.



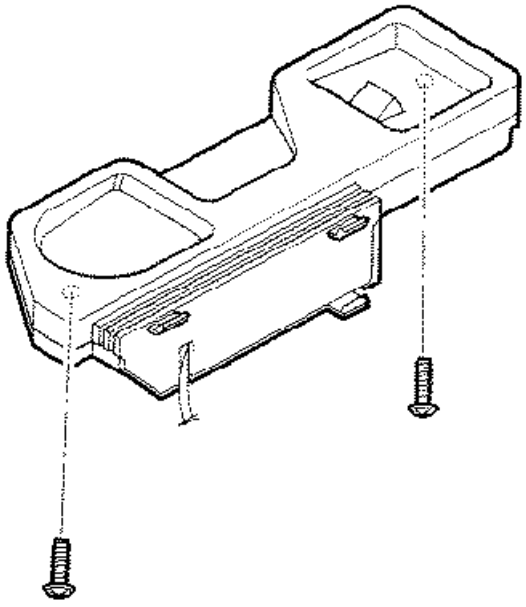
6.2.12 SPEAKER

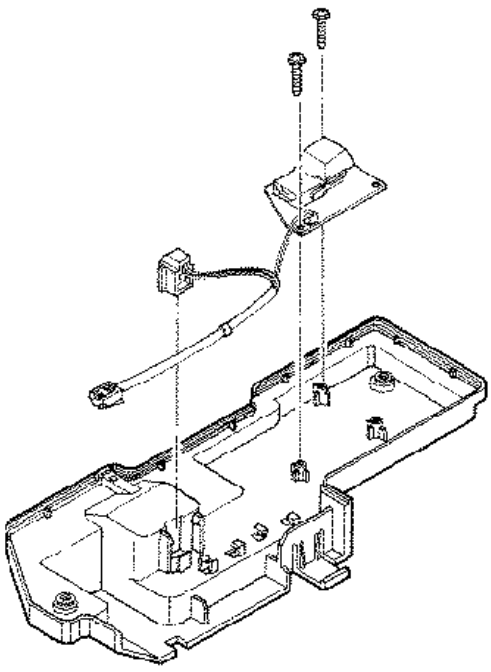
1. Remove the scanner mechanism assembly.

2. Turn the scanner unit upside down and unplug the speaker connector from the scan PBA.

3. Remove the two screws securing the scan paper guide. Take out the scan paper guide.

4. Remove the two screws securing the speaker, and take out the speaker.

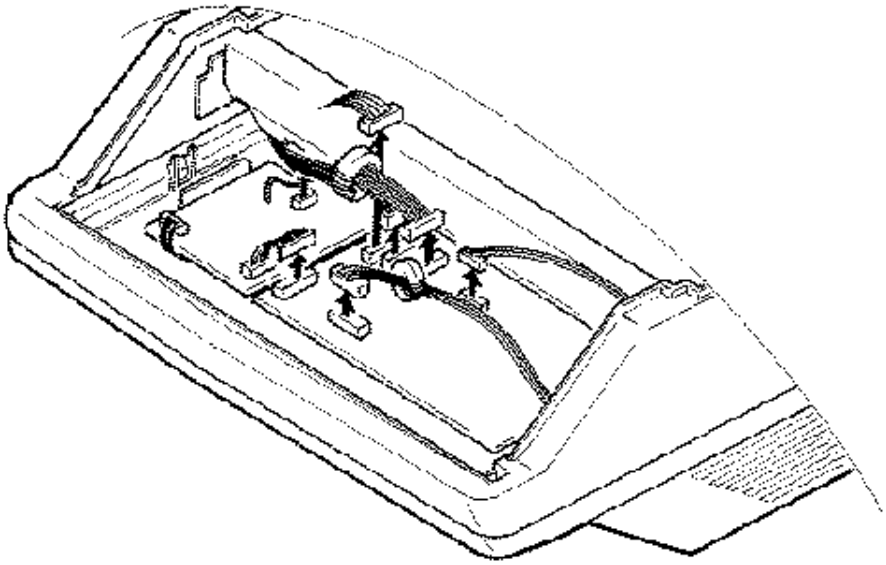


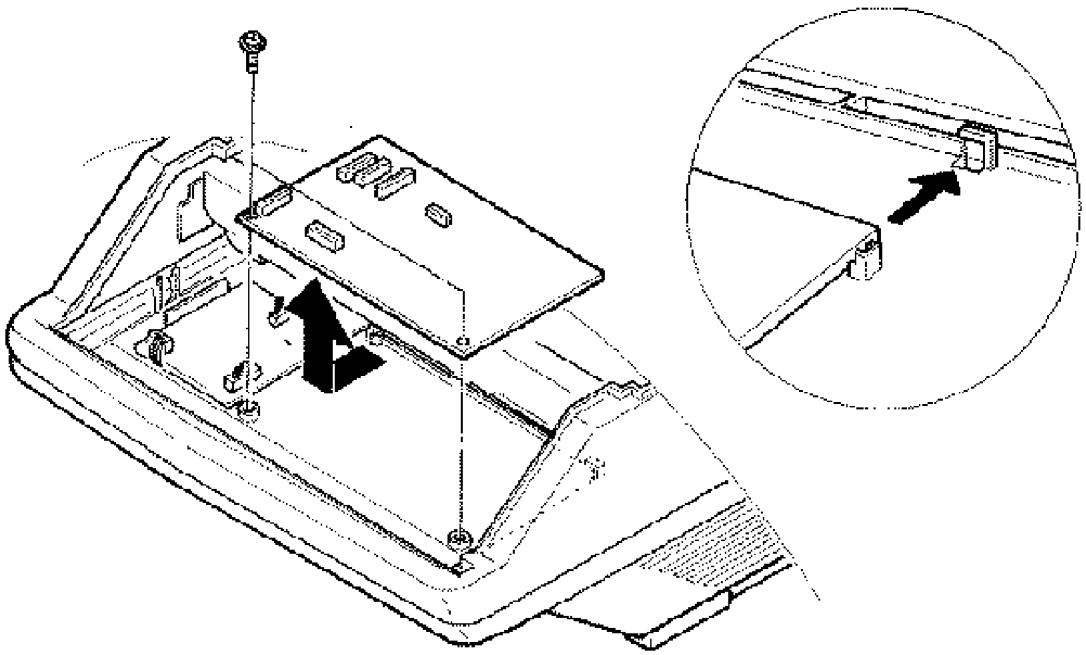


6.2.13 SCAN MOTOR

1. Remove the scanner mechanism assembly, operation unit, and white roller assembly.

2. Turn the scanner unit upside down and unplug the motor connector from the scan PBA.



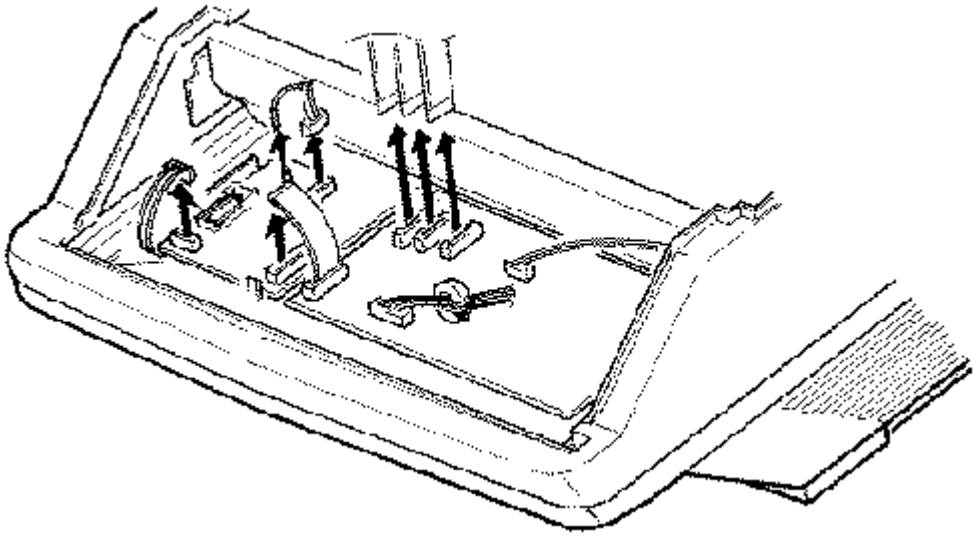


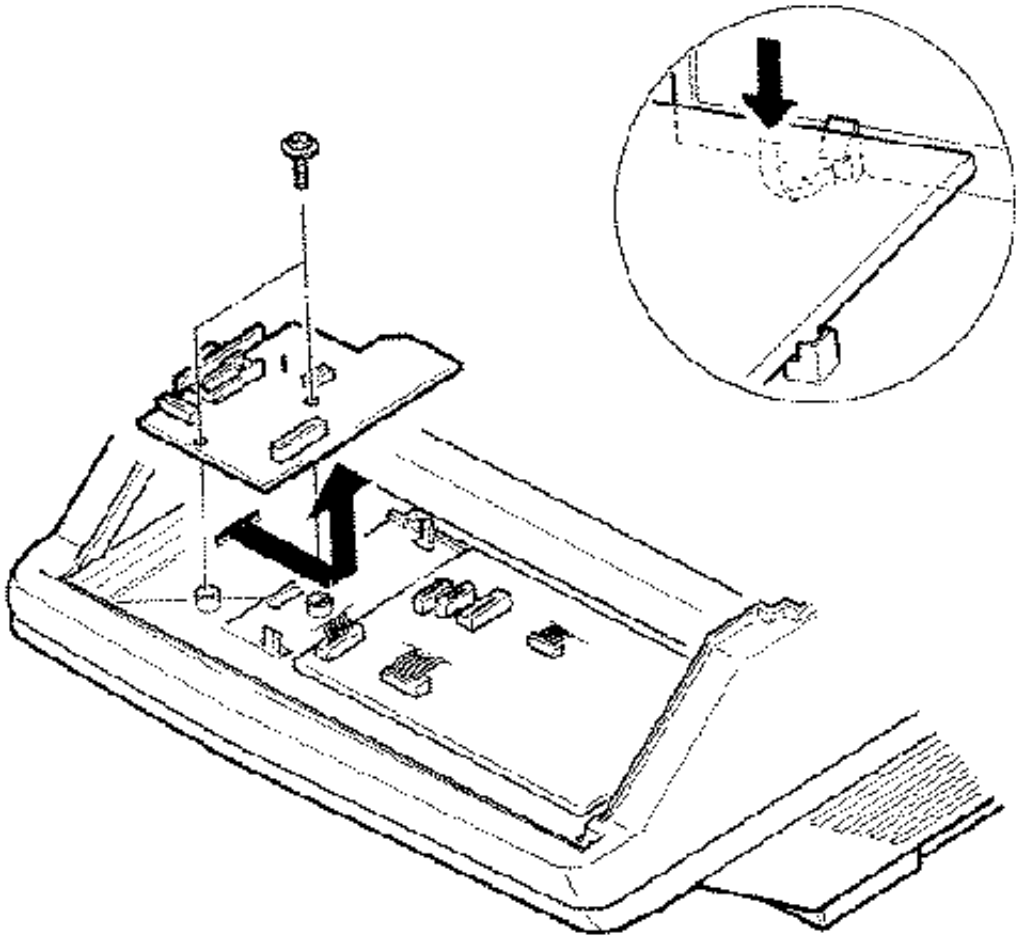
3. Remove the two screws securing the scan paper guide. Take out the scan paper guide.

4. Remove all rollers in the scanner unit.

5. Remove the two screws to disassemble the motor assembly.

6. Remove the two screws securing the motor to the motor bracket.

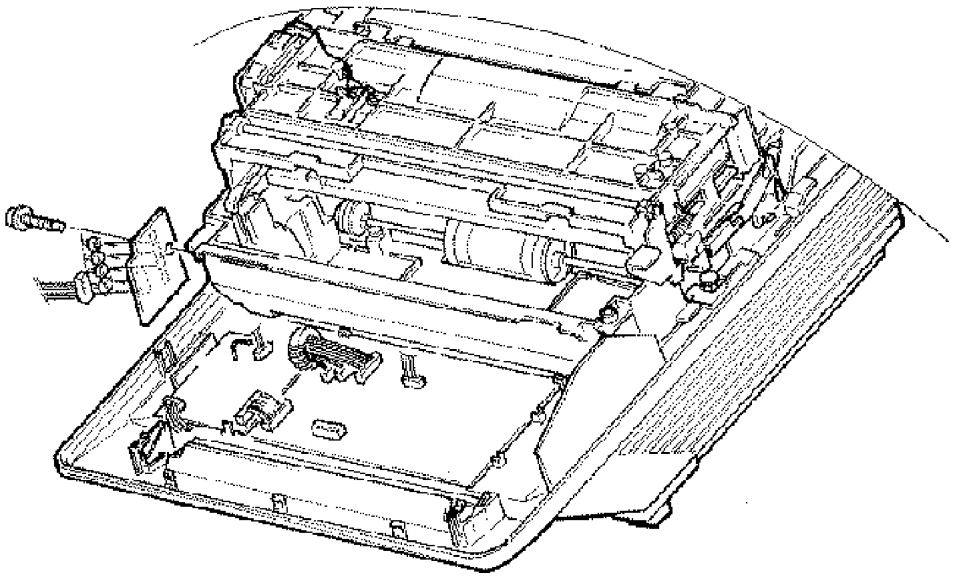




6.2.14 ROLL PINCH

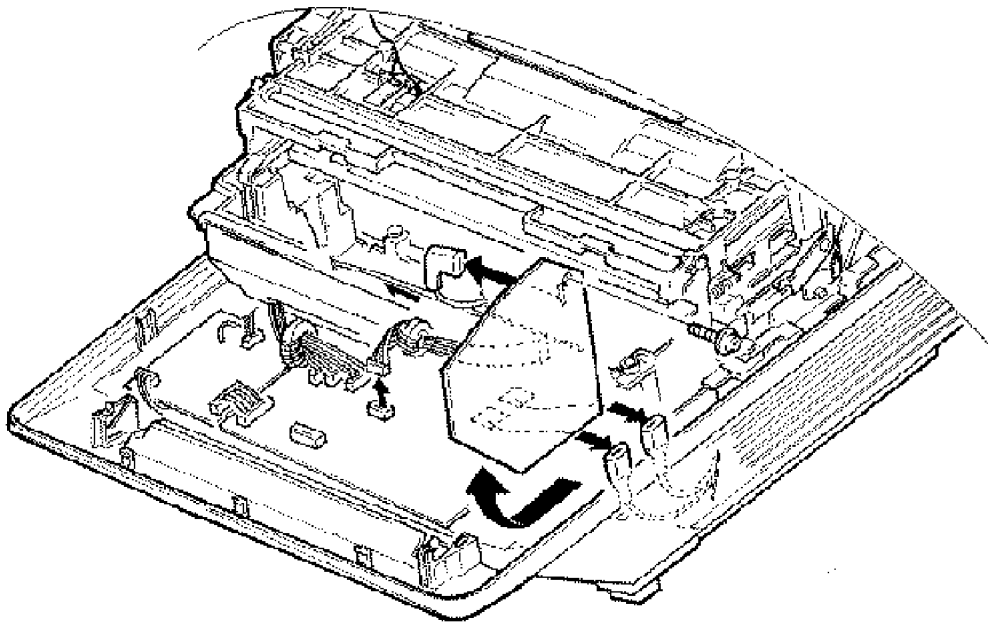
1. Remove the scanner mechanism assembly and operation unit

2. Remove the four screws in the operation unit.



3. Turn the operation unit upside down and remove the two screws secure~4~he spring pinch.

4. Take out the spring pinch. The roll pinches are separated.

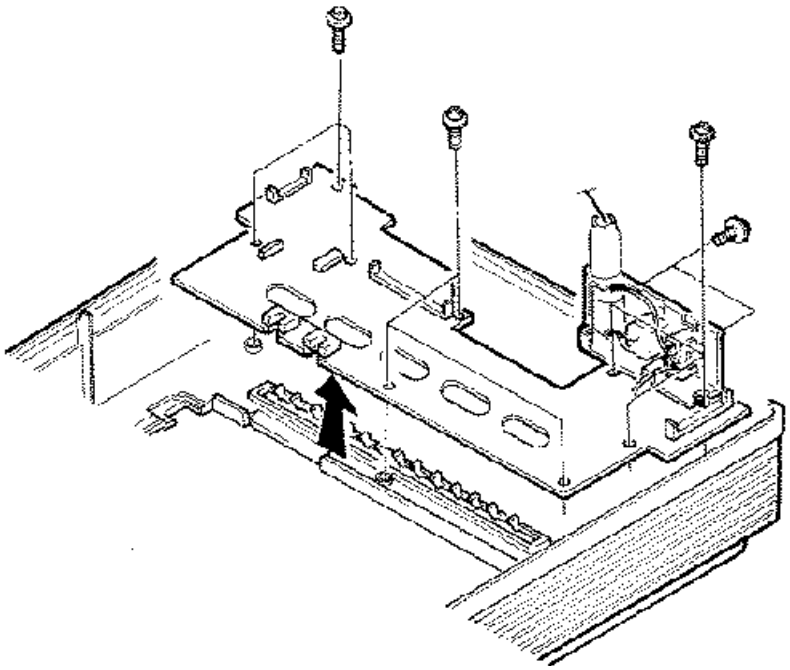


6.2.15 SPRING COIL

1. Remove the scanner mechanism assembly and operation unit.

2. Remove the four screws in the operation unit to separate the scanner upper frame.

3. Remove the spring coil from the hook.

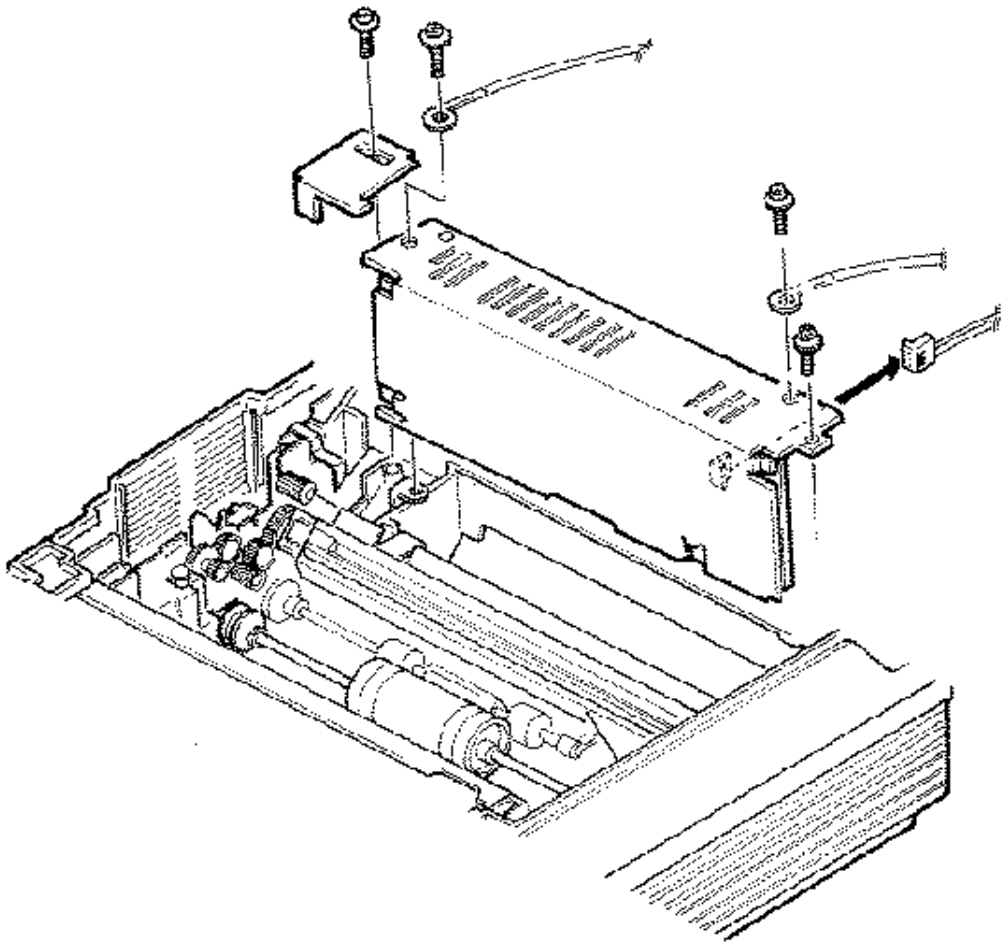


6.2.16 SCAN PBA

1. Remove the scanner mechanism assembly.

2. Turn the scanner unit upside down and unplug all connectors from the scan PBA.

3. Remove the two screws securing the scan PBA and take the PBA out.

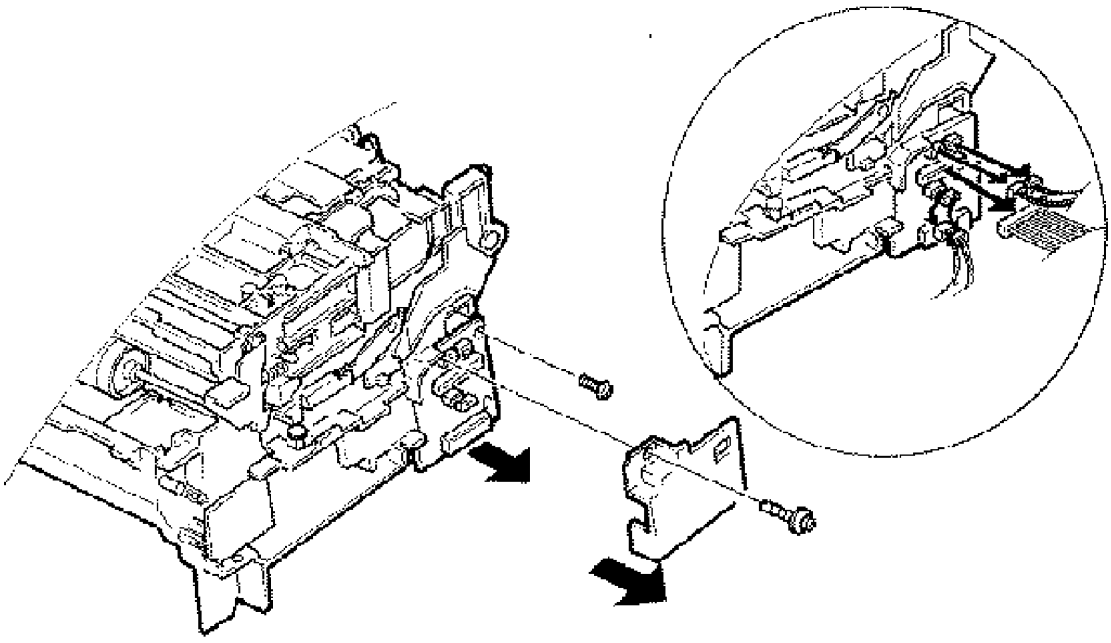


6.2.17 OPERATION PBA

1. Remove the scanner mechanism assembly and operation unit.

2. Remove the four screws in the operation unit to separate the scanner upper frame.

3. Remove the fourteen screws securing the operation PBA and LCD, then take out the PBA and the LCD.



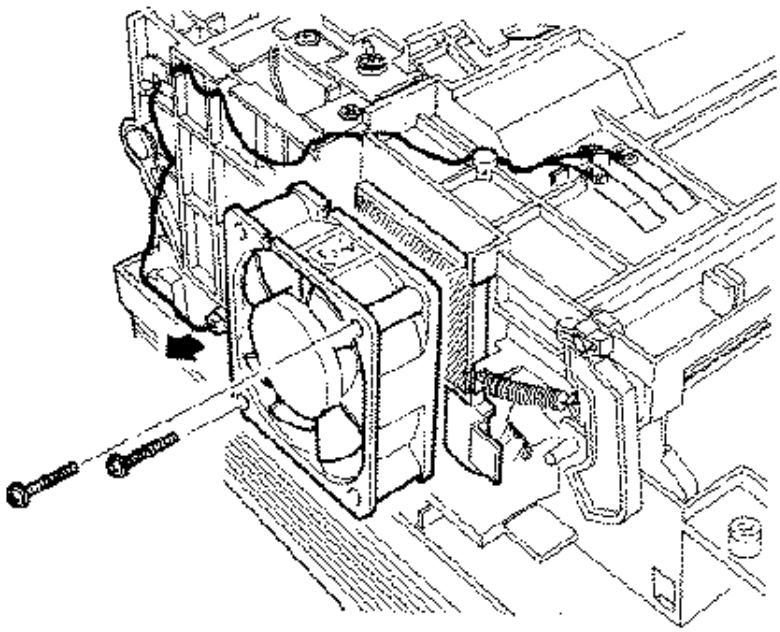
Notes

- Do not turn the operation unit upside down after you remove the screws securing the PBA. Keys and rubber contacts may be separated and you might lose them.

- When disassembling the operation unit, place the unit on a soft cloth to avoid accidentally scratching the surface of the unit.

6.2.18 HOOK PBA

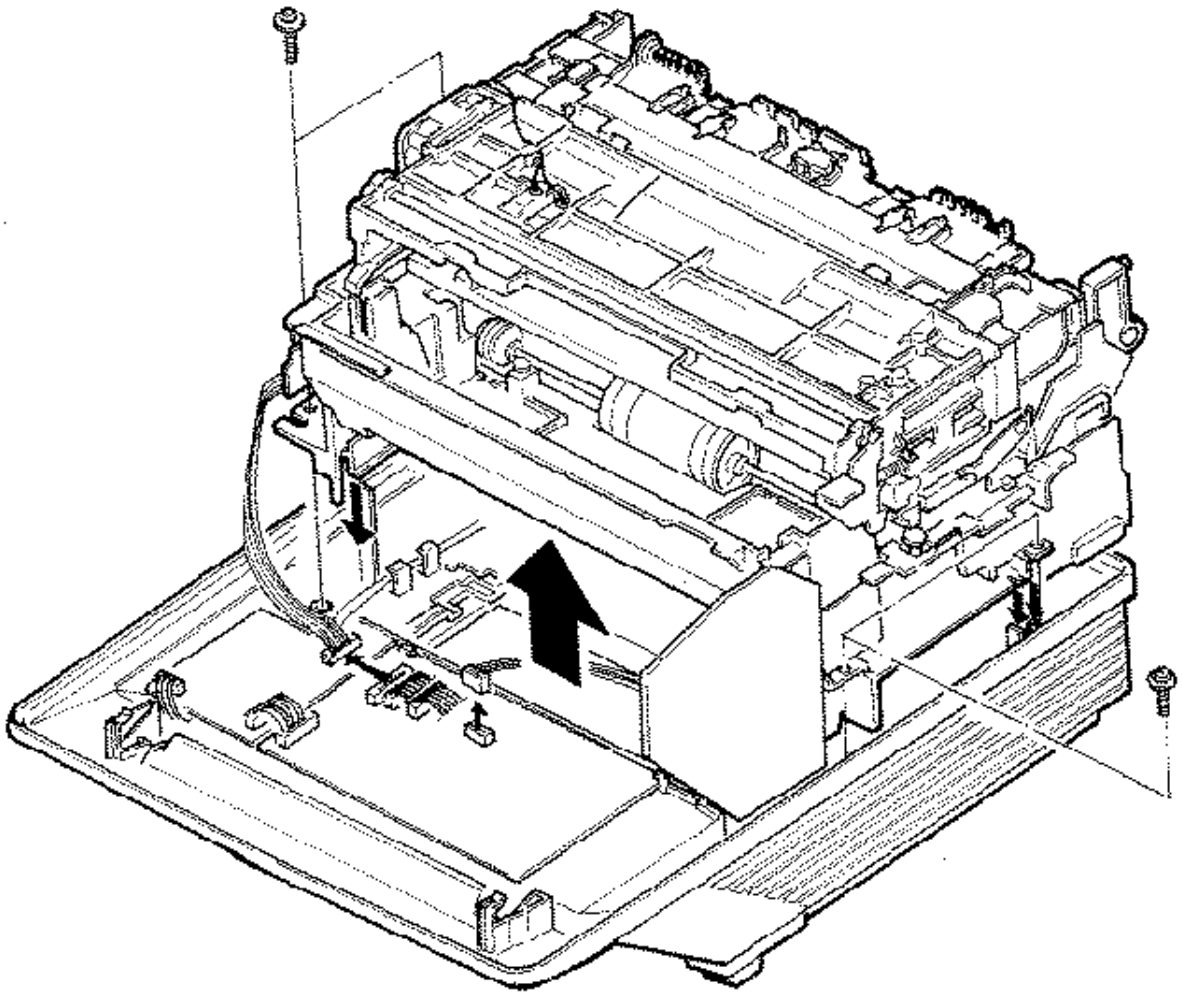
1. Unhook the tab on the bottom of the cradle from the main body, then unhook the two tabs on the side of



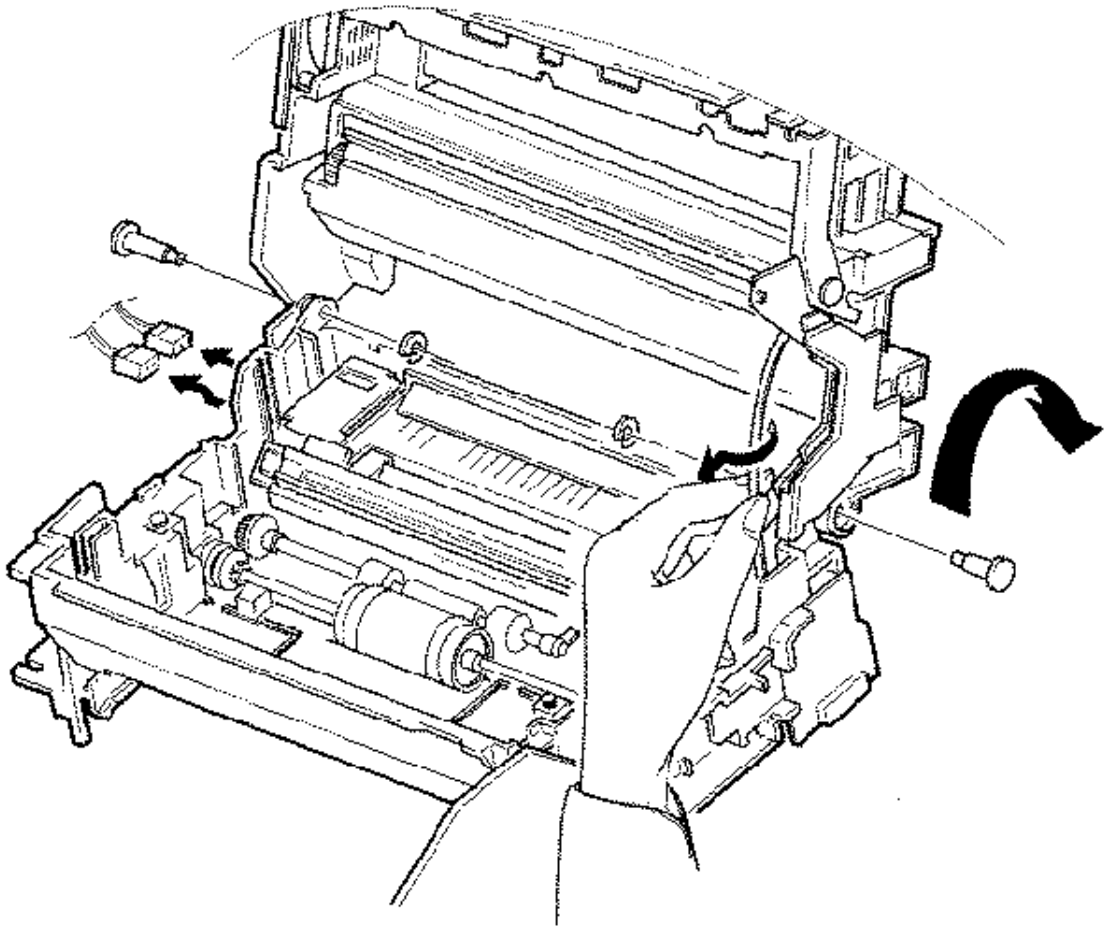
the cradle.

2. Unplug the modular cords from the main body and from the cradle.

3. Turn the cradle upside down and remove the two screws to separate the cradle upper frame and lower the frame.



4. Remove the two screws securing the hook PBA and take out the PBA.

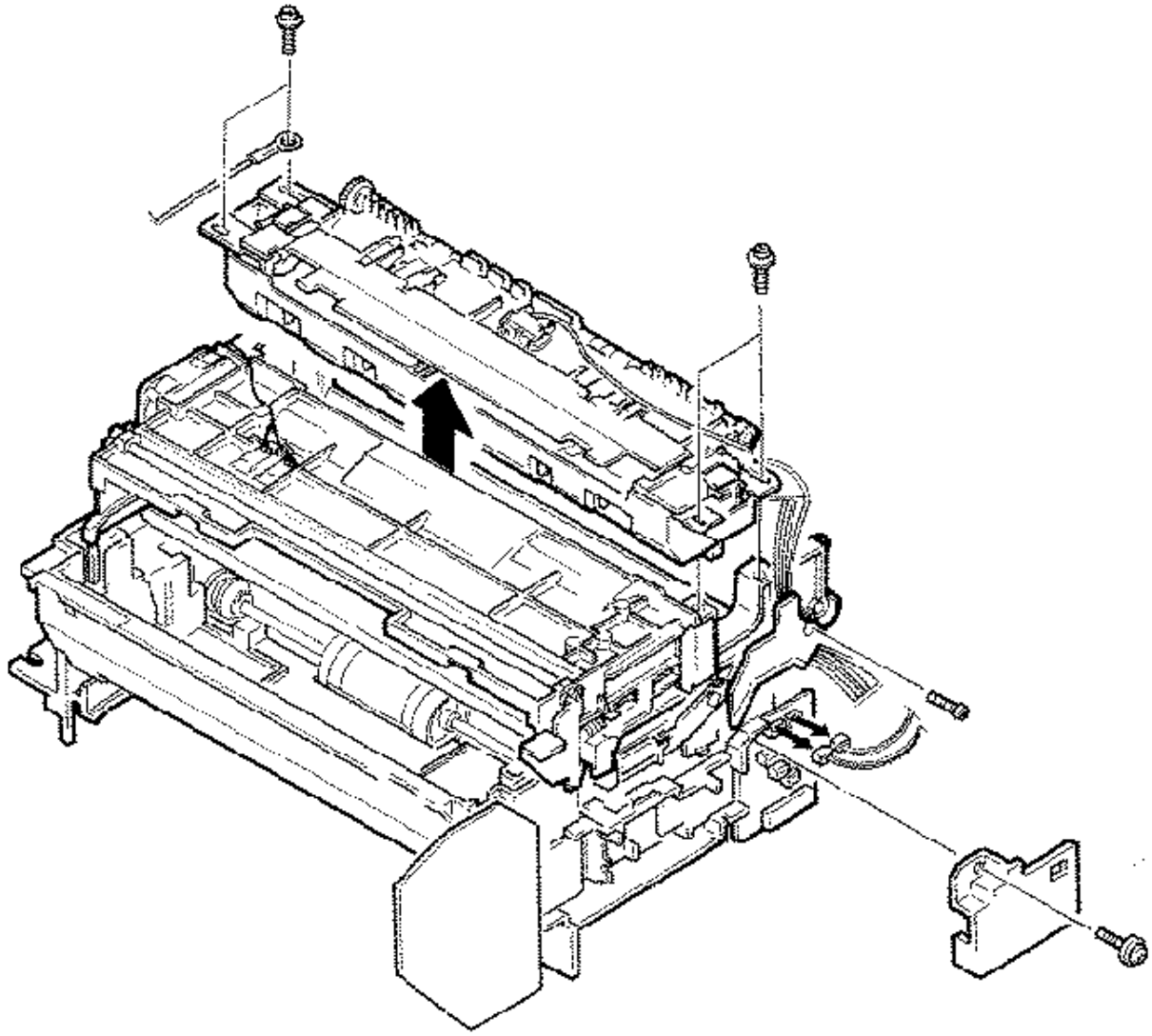


6.2.19 MAIN PBA

1. Remove the scanner mechanism assembly.

2. Unplug all connectors from the main PBA.

3. Remove the two screws securing the main PBA and take out the PBA.



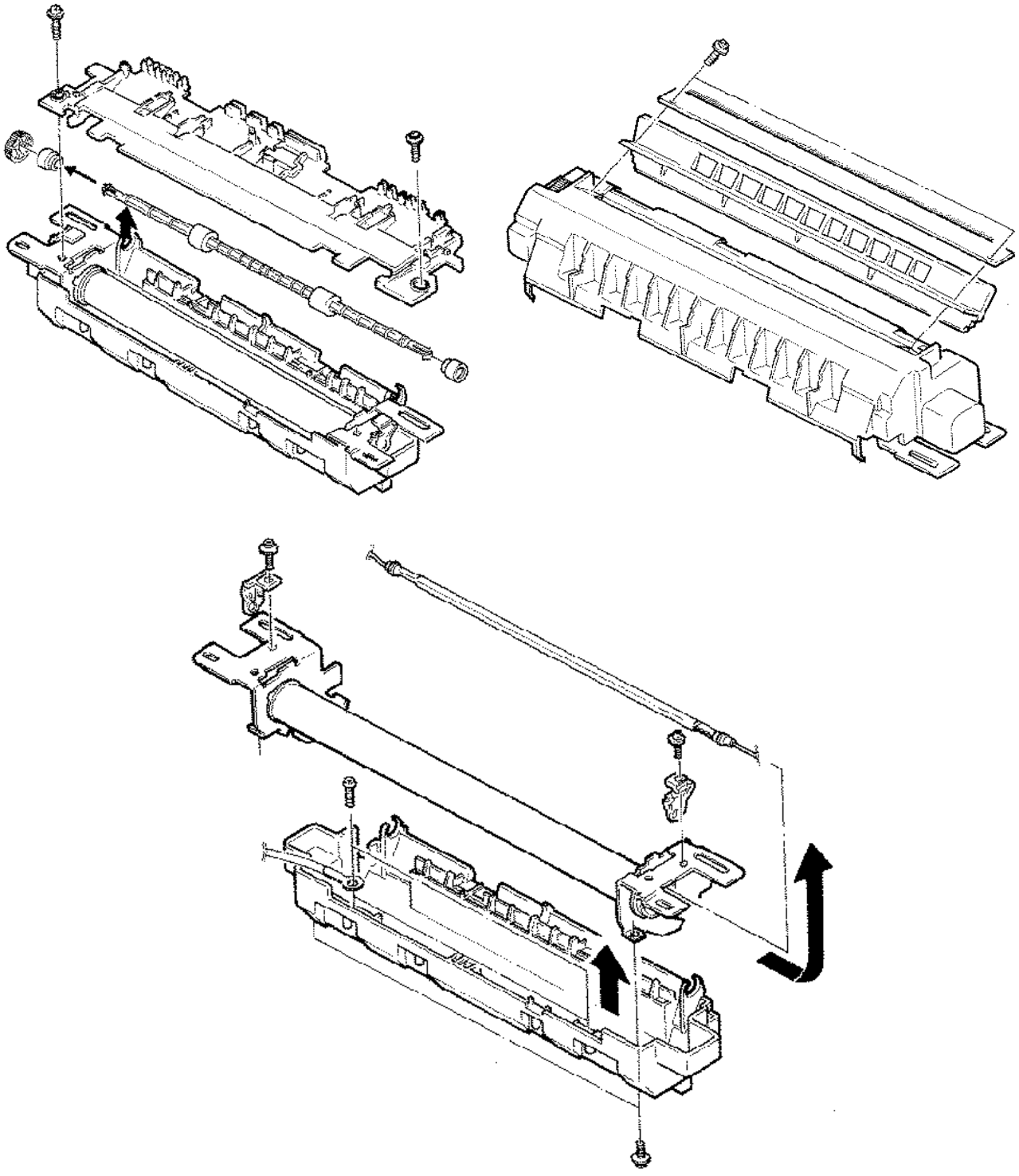
6.2.20 LIU PBA

1. Remove the scanner mechanism assembly.

2. Unplug the connectors from the main PBA.

3. Unplug connectors and earth plug from the LIU PBA.

4. Remove the two screws securing the LIU PBA and take out the PBA.



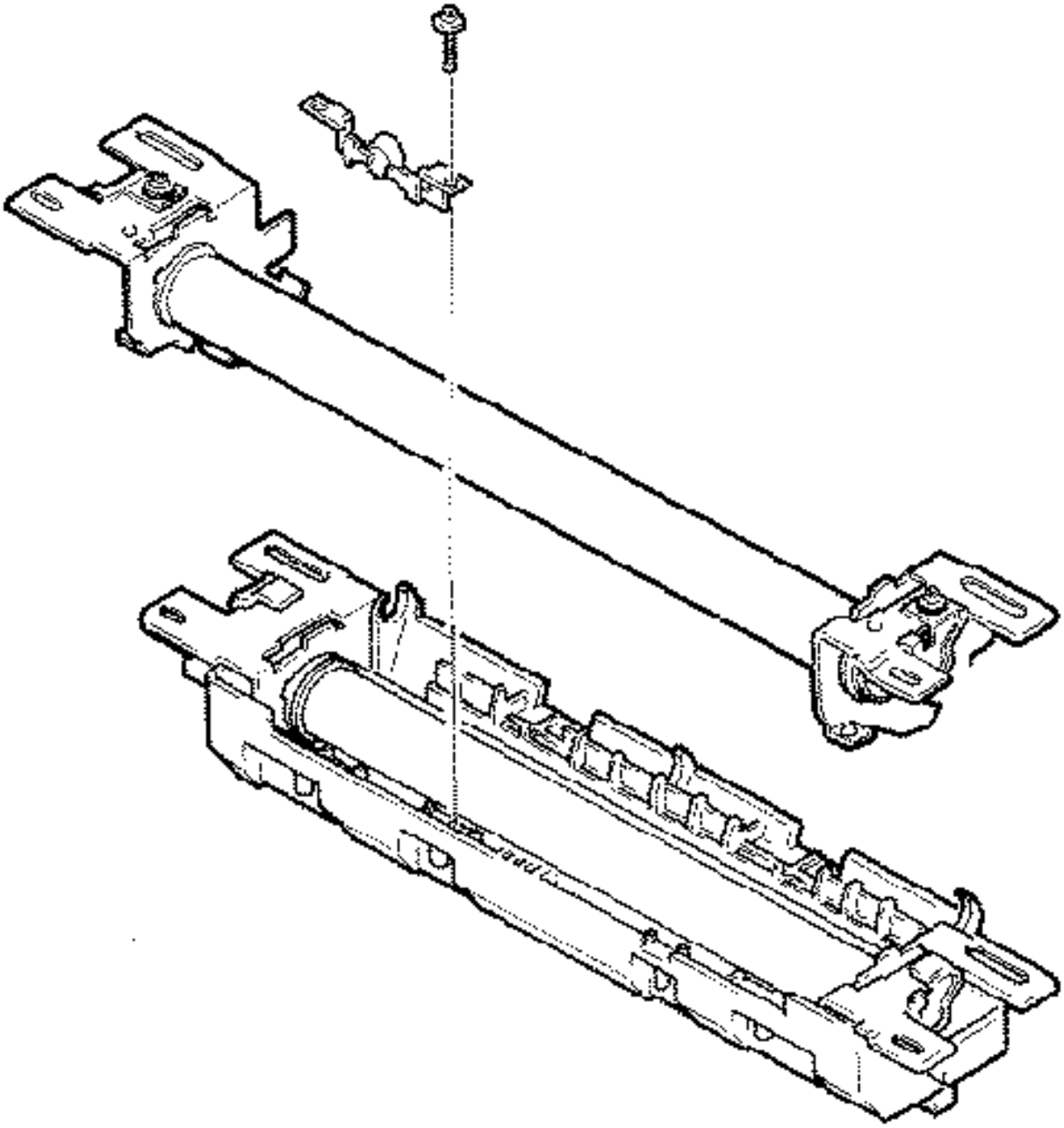
6.2.21 CONNECTION PBA

1. remove covers and the scanner mechanism assembly.

2. Unplug all connectors from the scan PBA.

3. Remove the one screw securing the connection PBA and take out the PBA.

6.2.22 HVPS UNIT

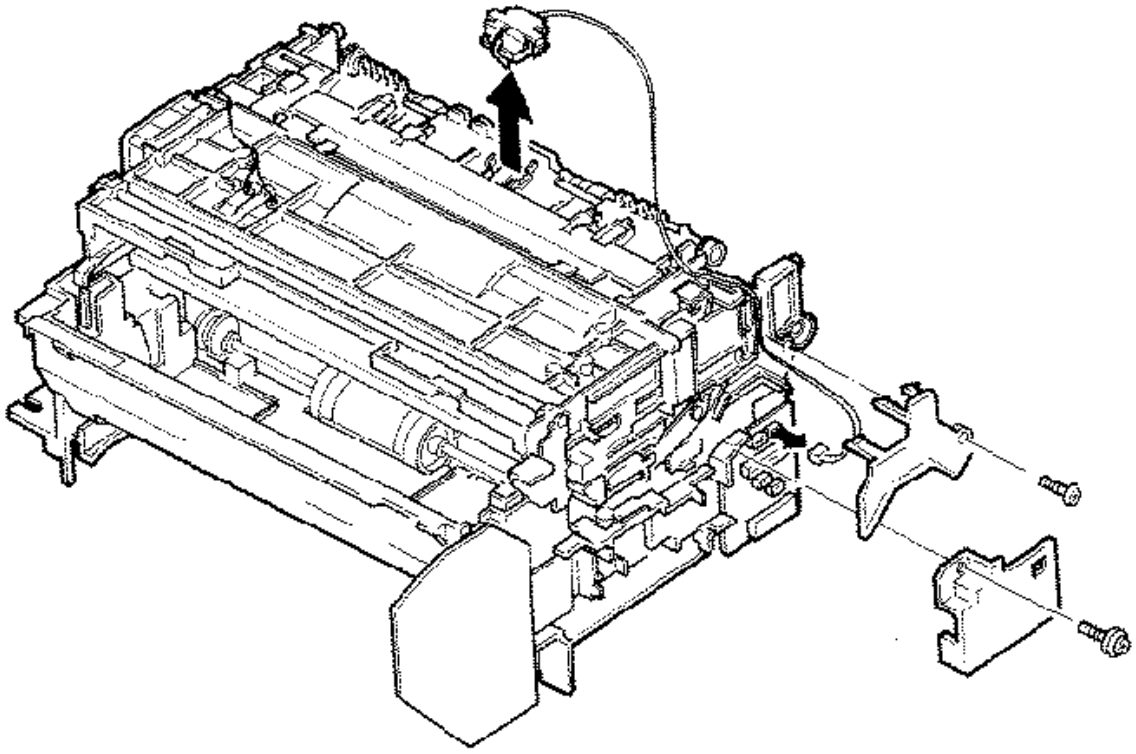


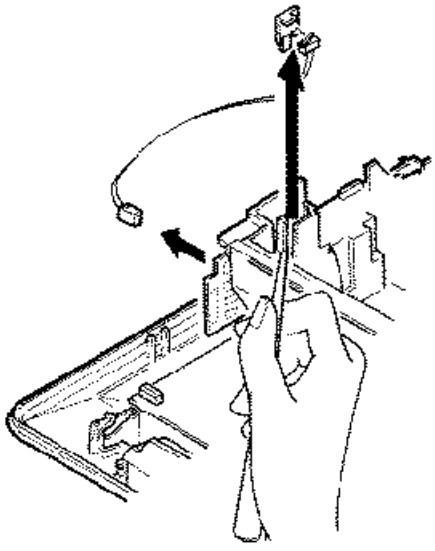
1. Remove covers and the scanner mechanism assembly.

2. Unplug one connector from the main PBA.

3. Remove the one screw securing the HVPS unit.

4. Unplug the earth wire and the three bias plugs in the HVPS.

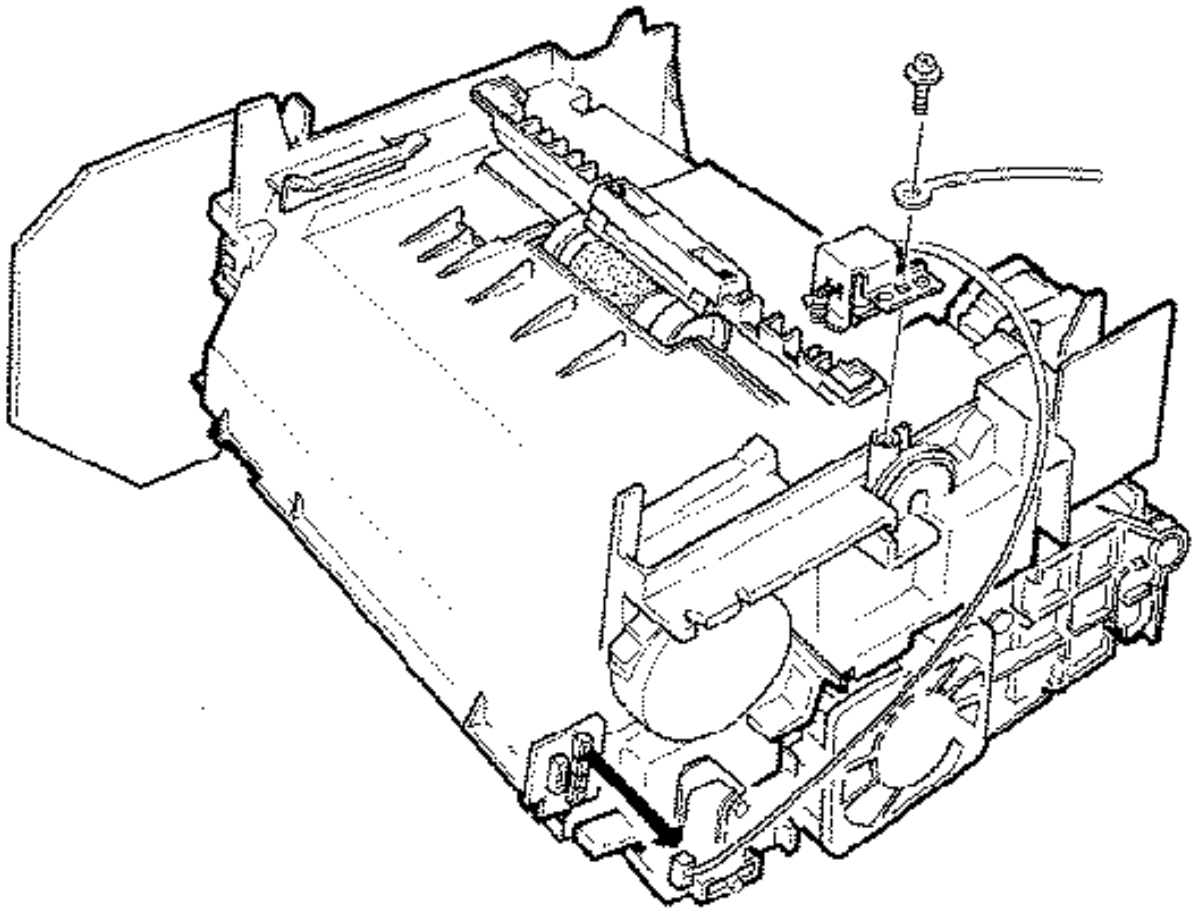




6.2.23 MOTHER PBA

1. Remove the engine mechanism.

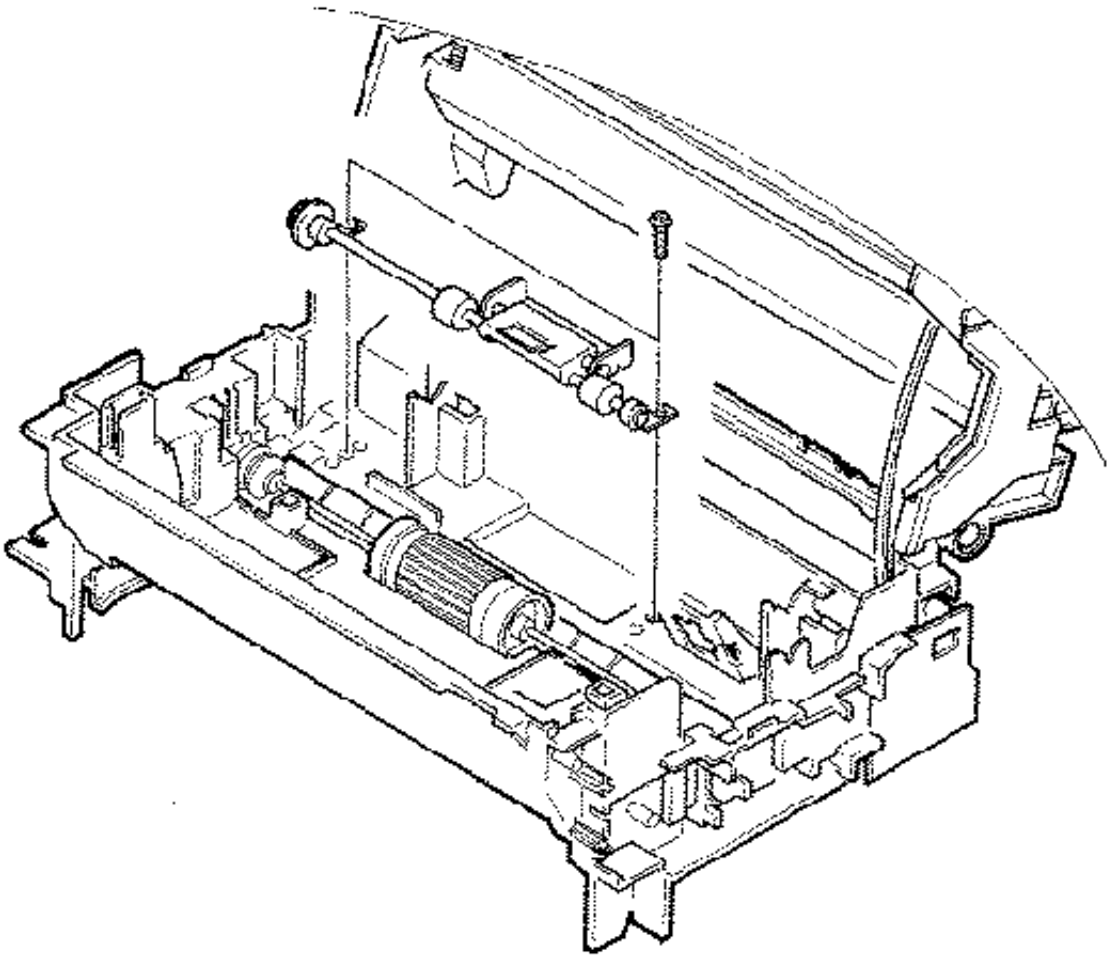
2. Unplug all connectors from the mother PBA.



3. Remove the two screws located near the power switch.

4. Remove the nine screws securing the mother PBA and take out the PBA.

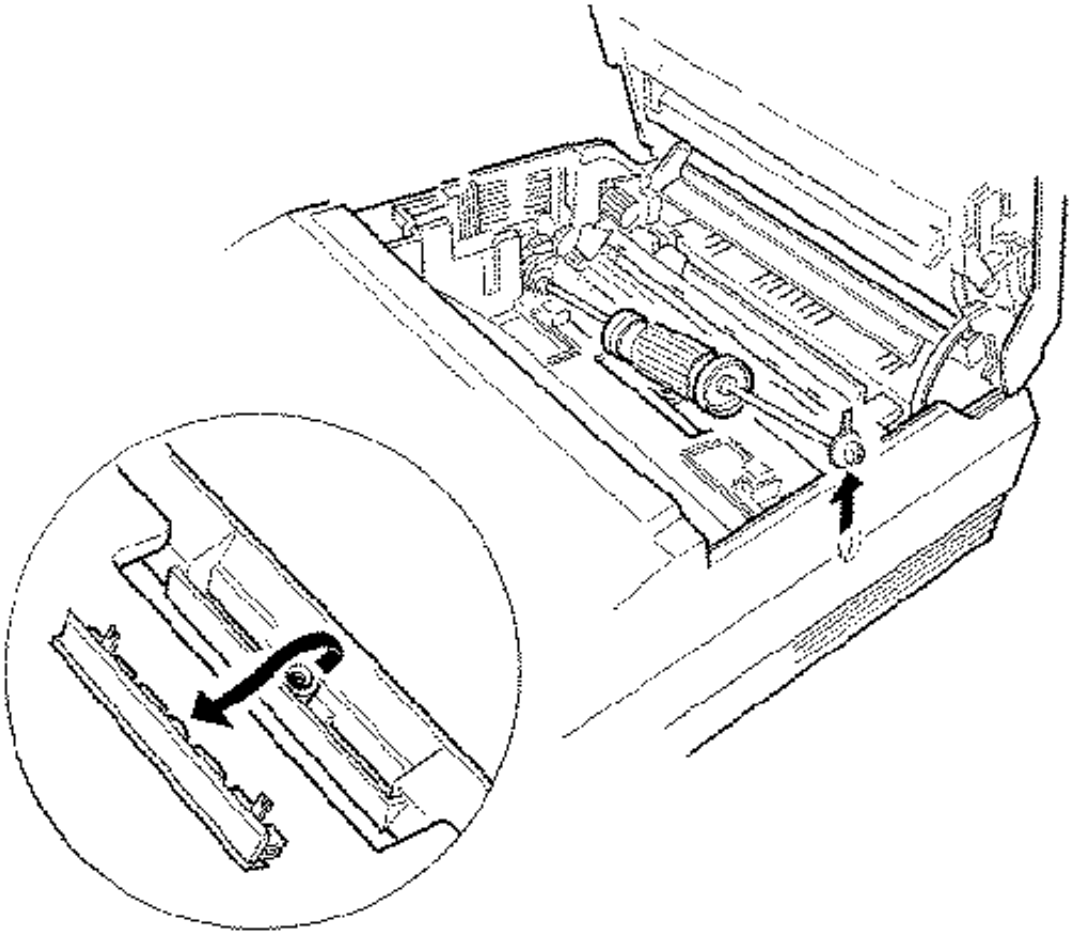
6.2.24 MECH PBA



1. Remove the engine mechanism.

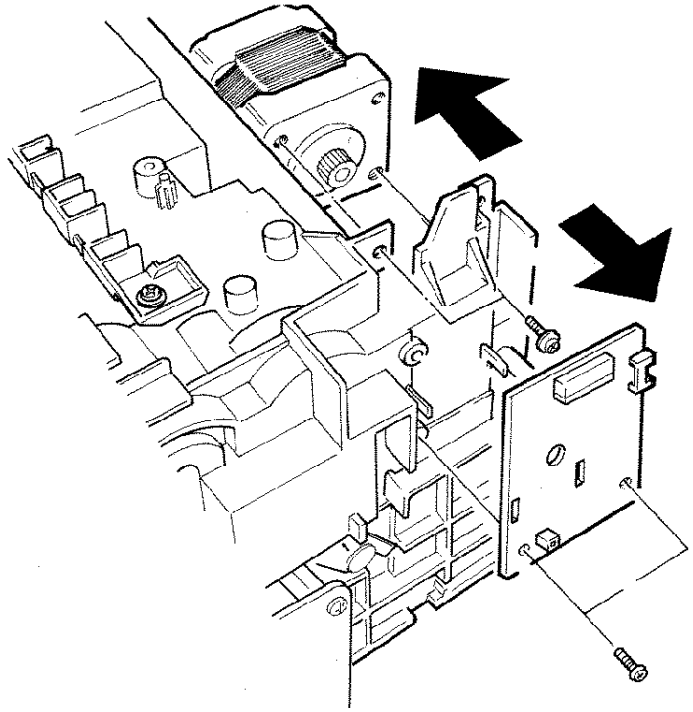
2. Unplug the connectors from the mech PBA.

3. Remove the three screws securing the mech PBA and take out the PBA.



6.2.25 SMPS UNIT

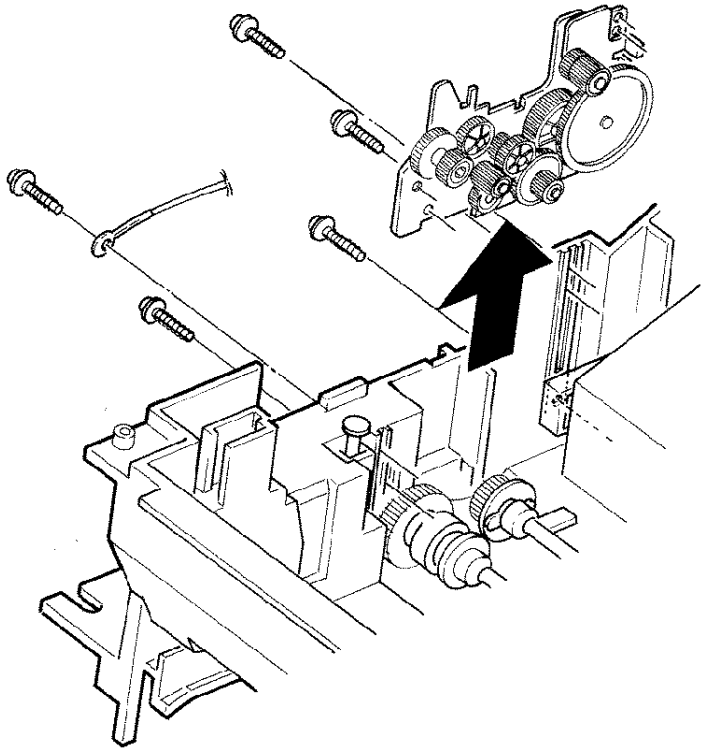
1. Remove the rear cover.



2. Remove the one screw securing the cap ground and take the cap ground out.

3. Remove the screw securing earth plug and two screws securing the SMPS unit.

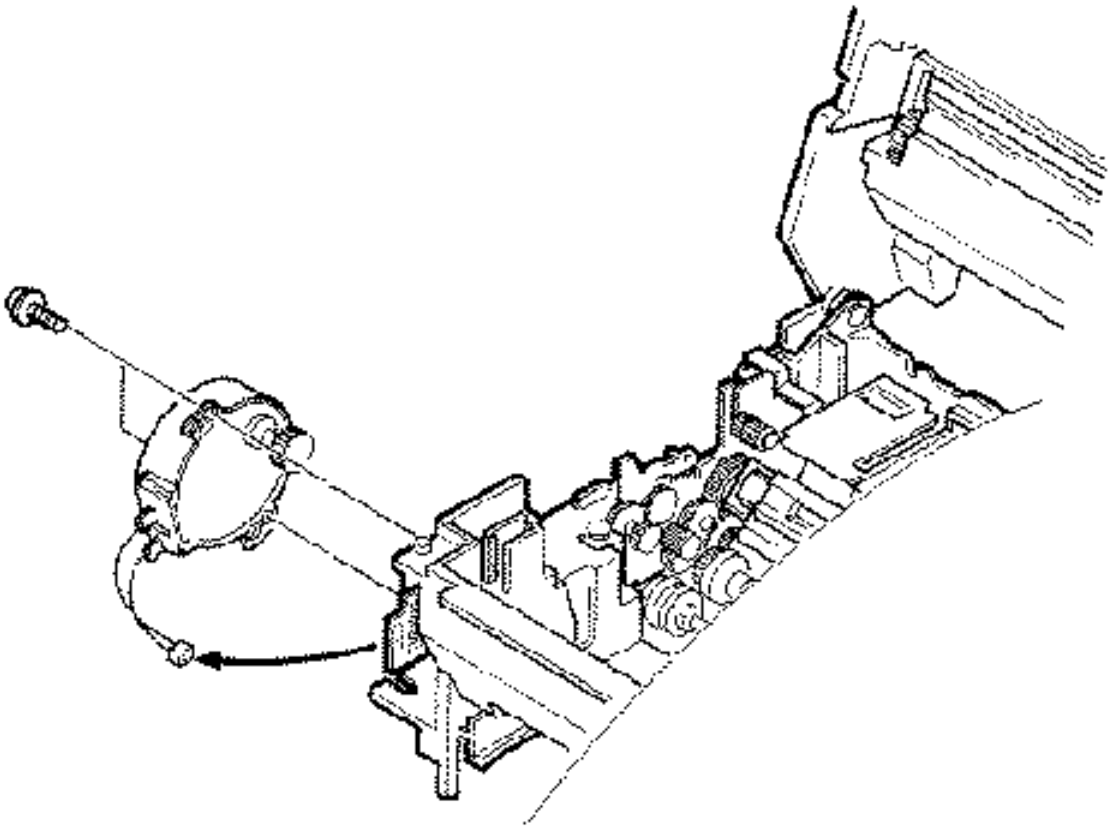
4. Take out the SMPS and unplug the one connector from the PBA in the SMPS unit.



6.2.26 SENSOR PBA

1. Remove the engine mechanism.

2. Remove the one screw securing the harness cover.



3. Unplug the connector from the sensor PBA.

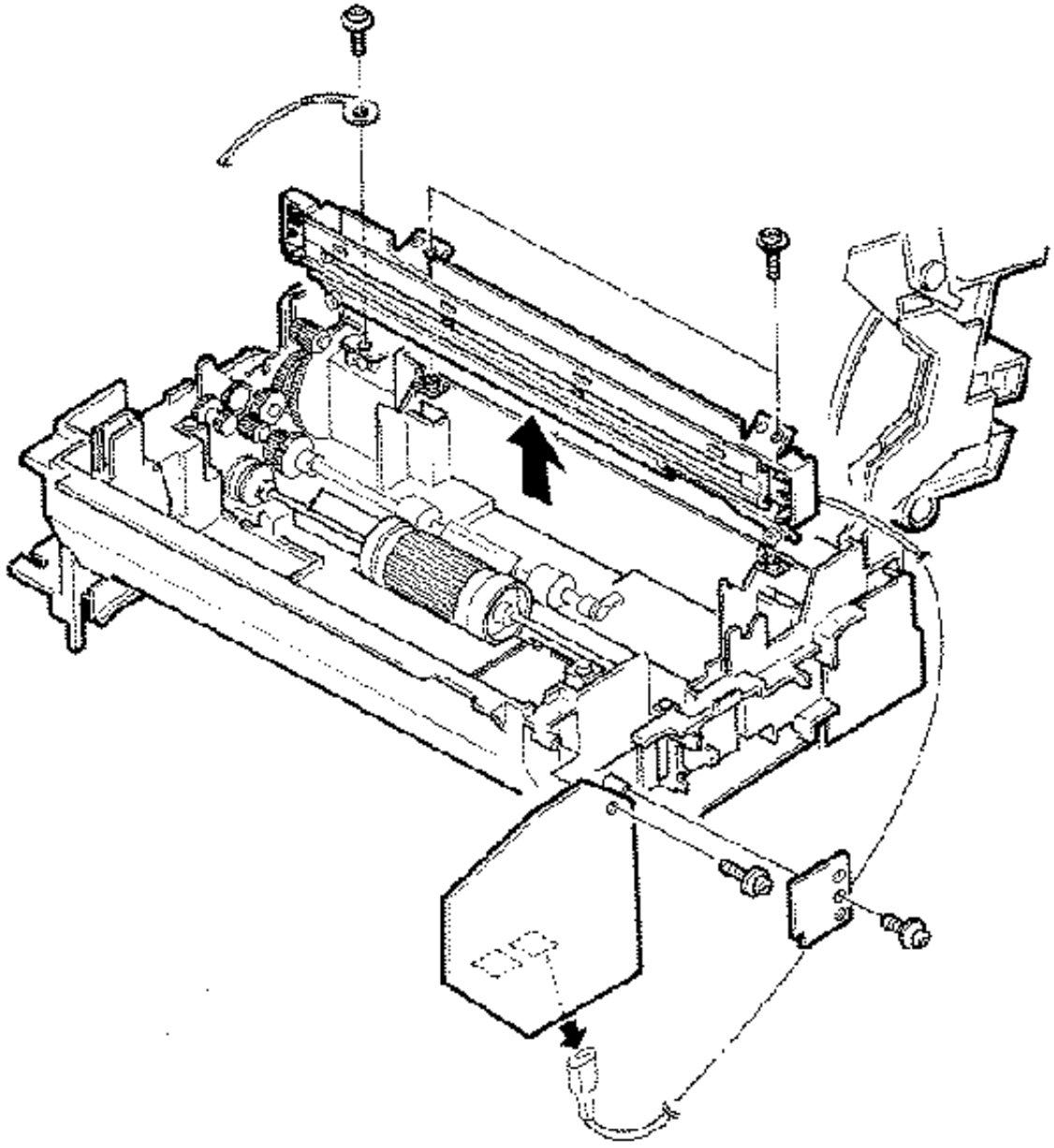
4. Remove the two screws securing the sensor PBA and take out the PBA.

6.2.27 FAN

1. Remove the covers and the scanner Mechanism Assembly.

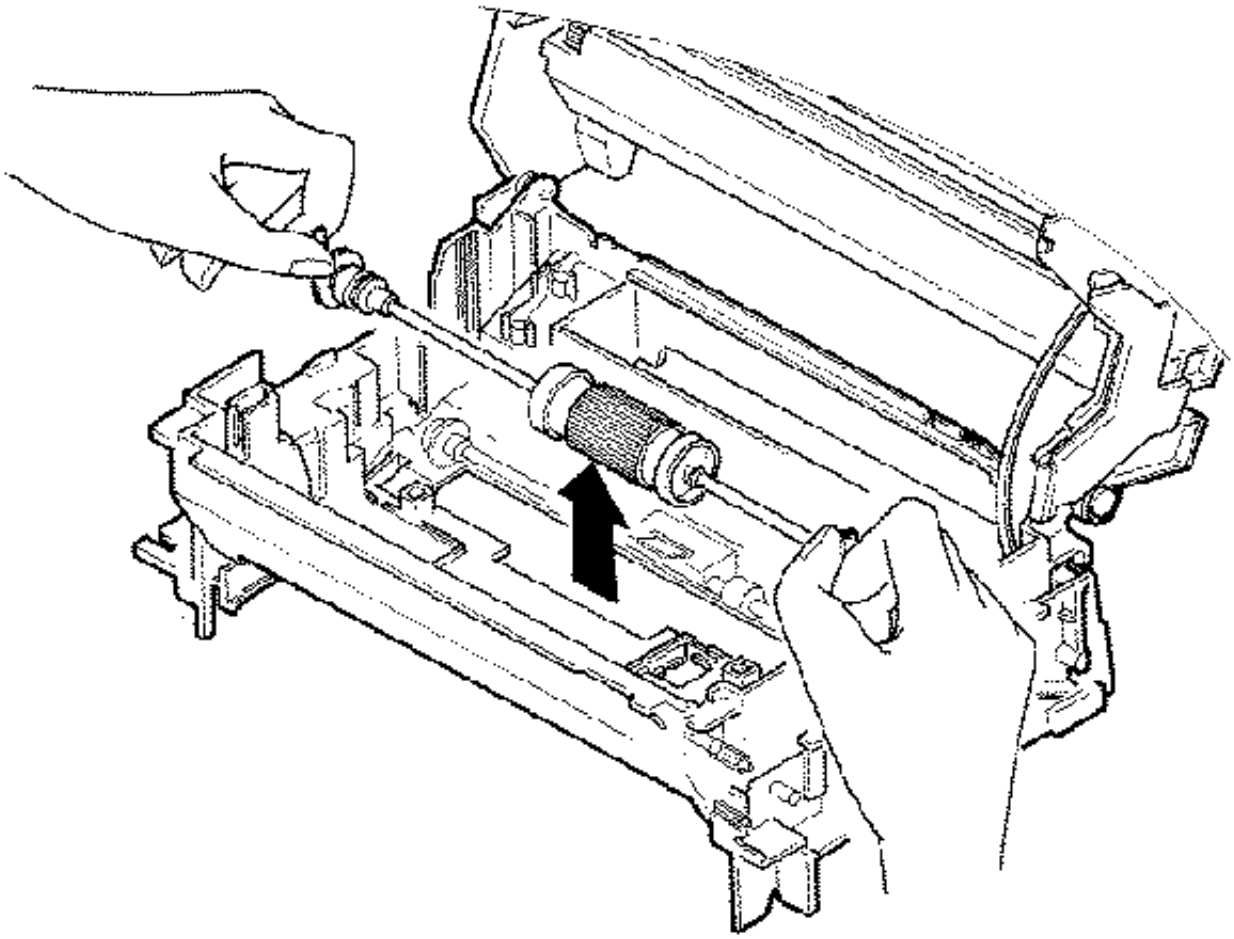
2. Remove the two screws securing the fan.

3. Unplug the connector from the Mech PBA.



4. Take out the fan and the filter.

Note: When reinstalling the fan, route the connector cord through the recessed channel on the harness.



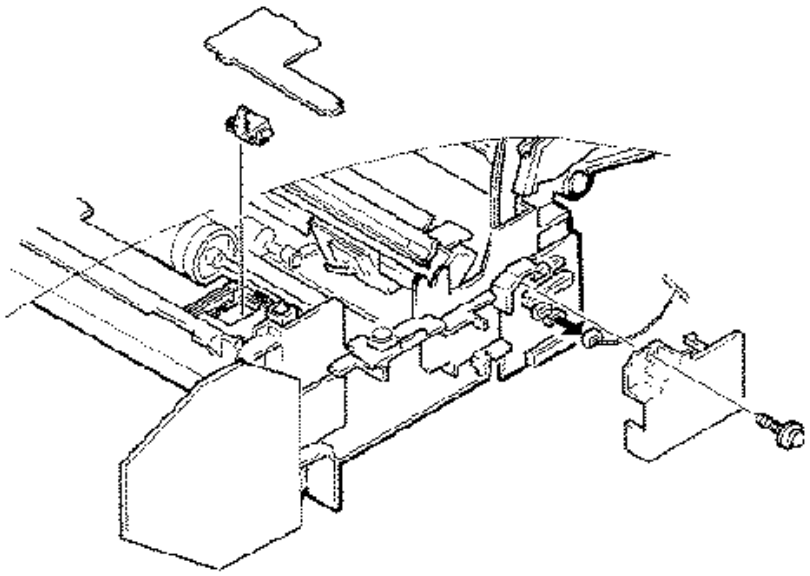
6.2.28 ENGINE MECHANISM ASSEMBLY

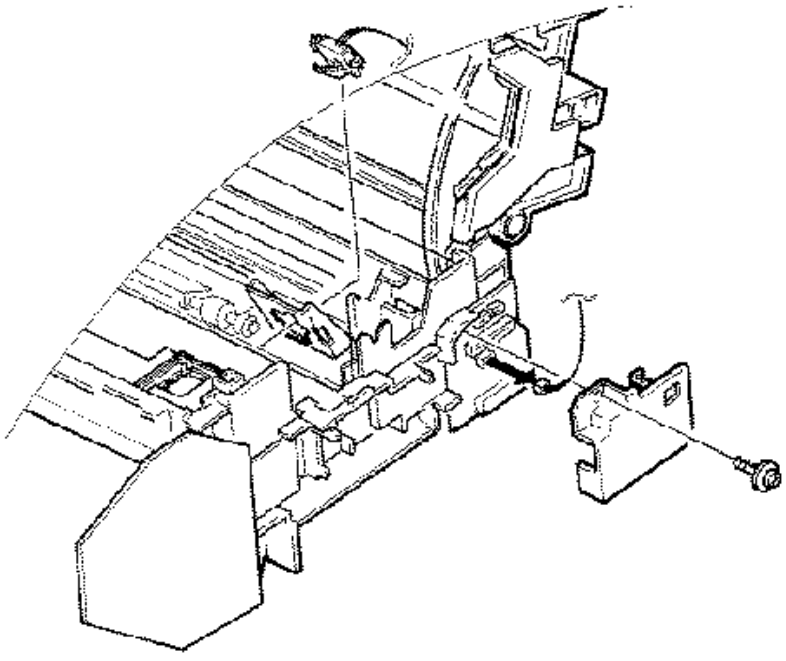
1. Remove the two screws holding the ground wires on the top of the SMPS Unit.

2. Remove the four screws securing the Engine Mechanism Assembly.

3. Disconnect the two connectors from the Main PBA

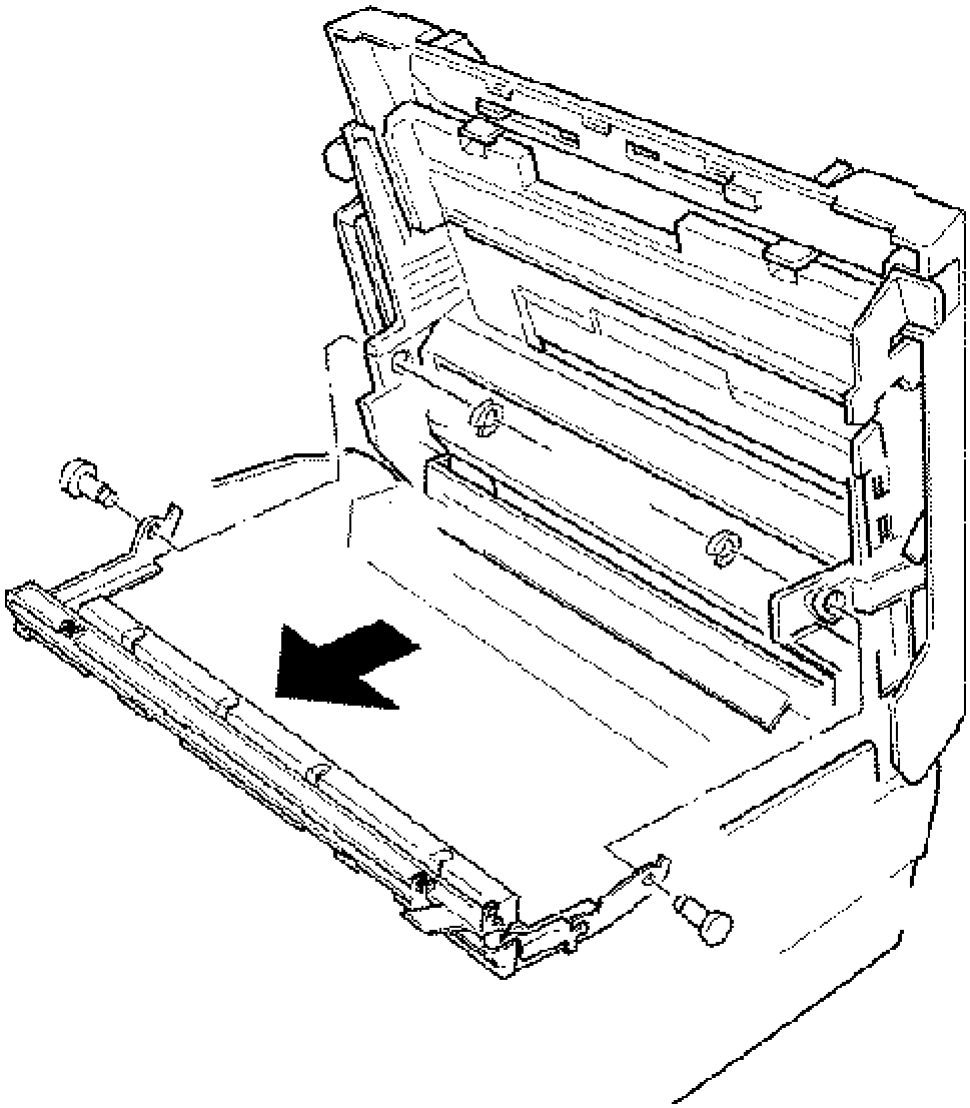
4. Lift the Engine Mechanism from the Lower Cover.





6.2.29 ENGINE UPPER FRAME UNIT

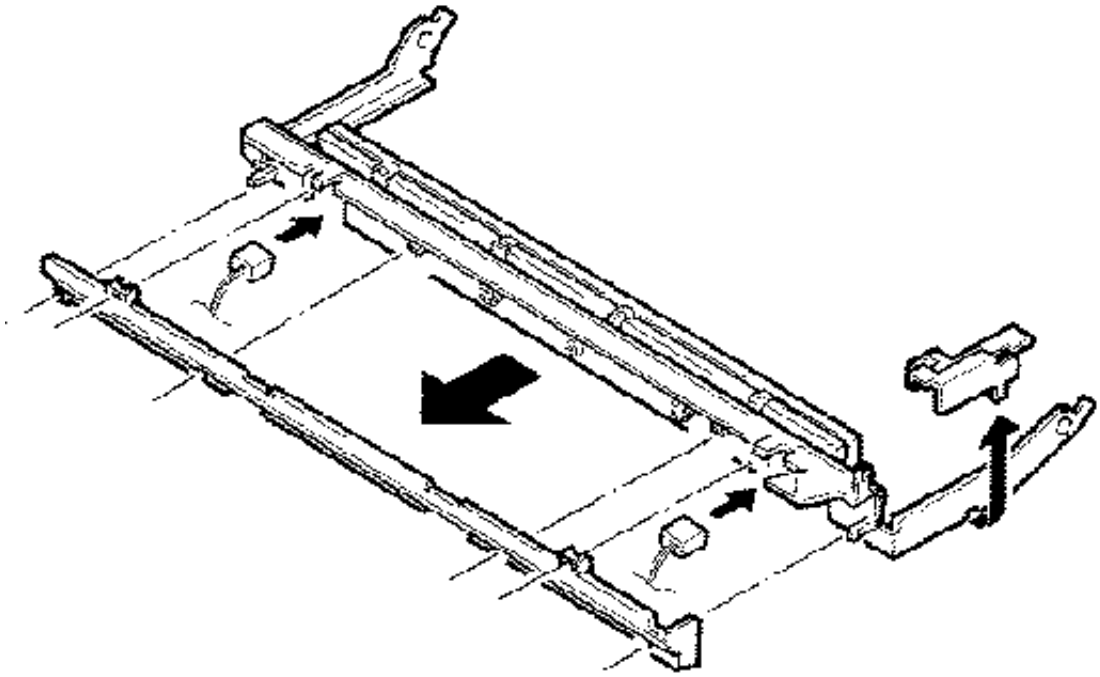
1. Remove the engine mechanism assembly.



2. Remove the one screw securing the harness cover.

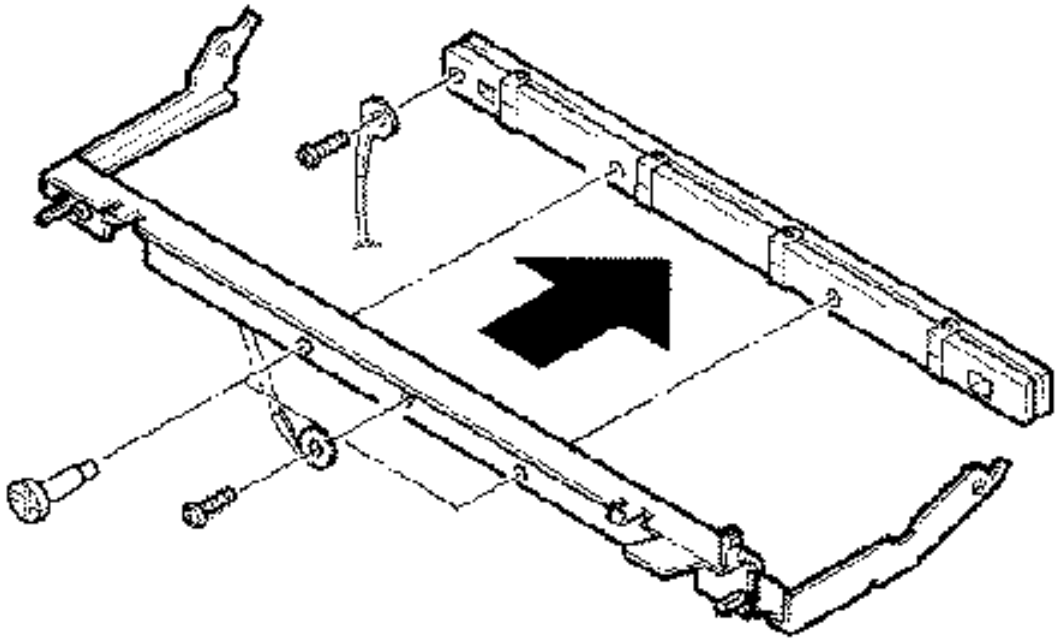
3. Unplug the connectors (Paper LPH, Thermistor, and Paper Exit) from the sensor PBA.

4. Unplug the fuse connector and fan connector from the mech PBA.



5. Remove the two E-rings and release the tie stopper.

6. Remove the two shafts securing the engine upper frame.

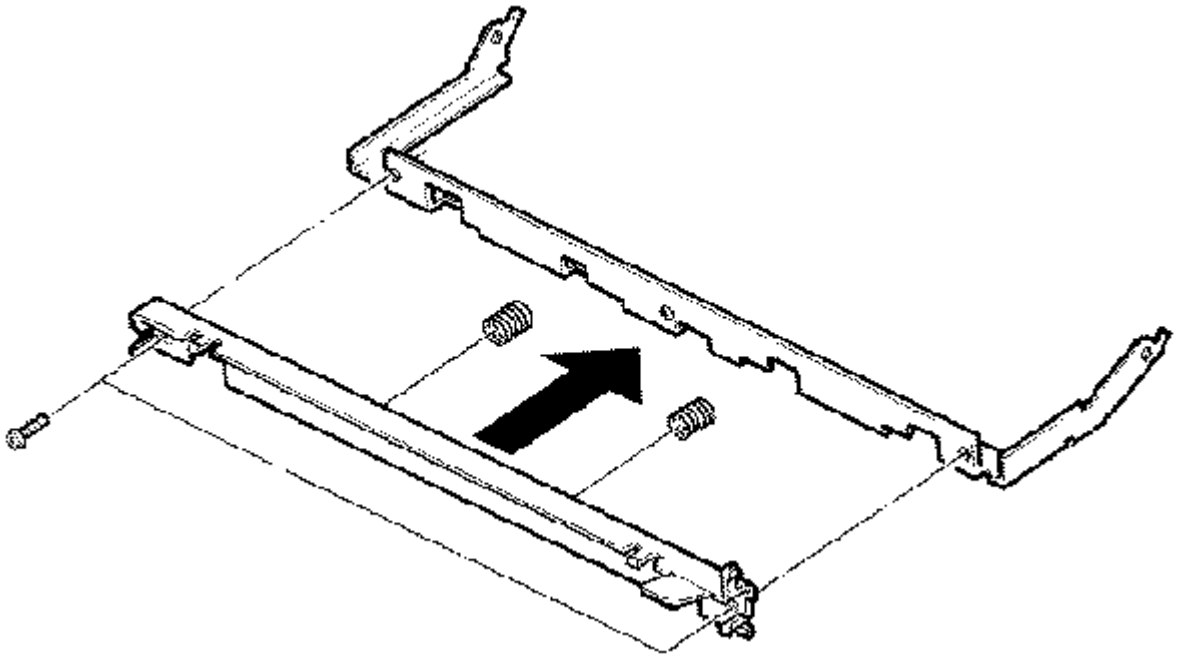


6.2.30 FUSER UNIT

1. Remove the engine mechanism assembly.

2. Remove the cover wire.

3. Remove the one screw securing the harness cover.



4. Unplug the thermistor connector from the sensor PBA.

5. Remove the four screws and take out the fuser unit.

6.2.31 HEAT LAMP

1. Remove the Fuser unit.

2. Remove the two screws securing the upper fuser and remove the exit roller.

3. Remove the two screws securing the guide inlet and take out the guide inlet.

4. Turn the fuser unit upside down and remove the two screws securing the heat lamp.

5. Turn the fuser unit right-side-up and remove the two screws at the bottom and take out the fuser cover.

6. Remove the lamp holder and take out the heat lamp.

6.2.32 THERMOSTAT

1. Remove the fuser unit.

2. Remove the two screws securing the upper fuser and remove the exit roller.

3. Turn the fuser upside down and remove the two screws securing the guide~inlet and remove the guide inlet.

4. Remove the two screws securing the heat lamp on both ends.

5. Remove the two screws at the bottom and take out the fuser cover.

6. Remove the one screw securing the thermostat and remove the thermostat.

7. Exploded Views and Parts List

7-1 Main Assembly

7-2 OPE Unit Assembly

7-3 Base UnitAssembly

7-4 Scanner Unit Frame Assembly

7-5 Engine Unit Upper Frame Assembly

7-6 Engine Unit Lower Frame Assembly

7-7 Pick-Up Unit Assembly

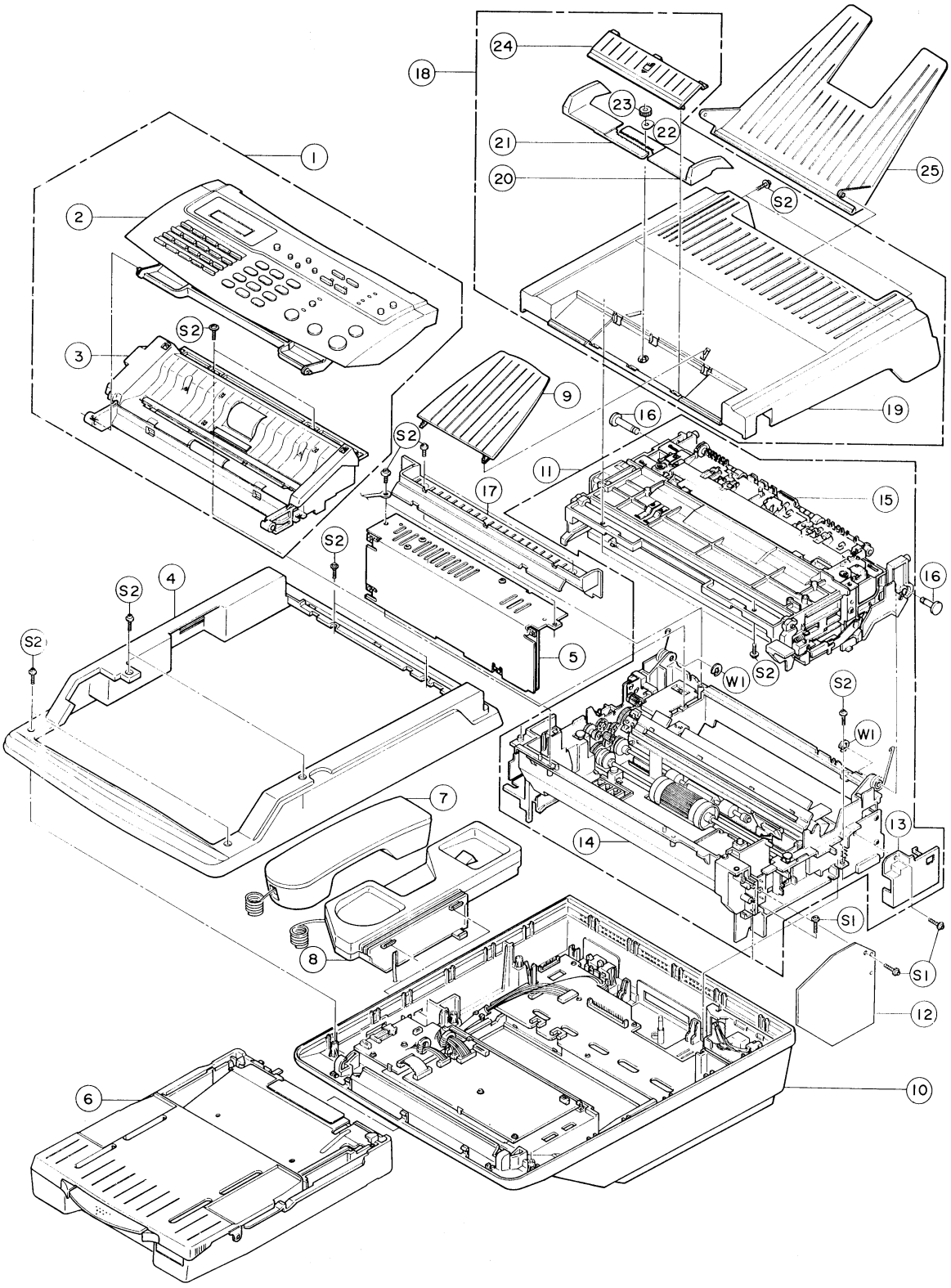
7-8 Feed-Roller Unit assembly

7-9 Cradle Unit Assembly

7-10 Handset Unit Assembly

7-11 Harness Assebbbly

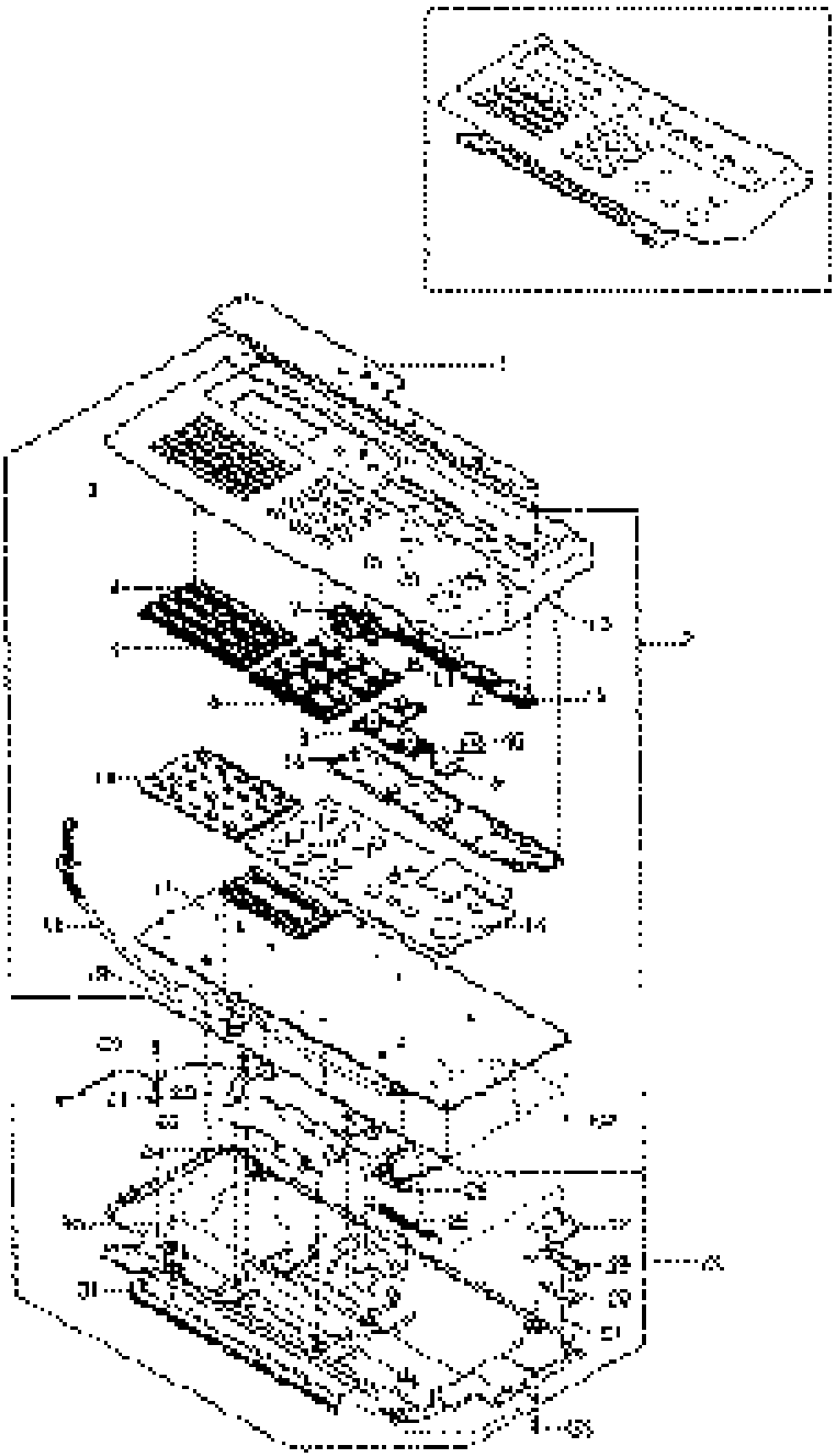
7-1. Main Assembly



Main Assembly Parts List

Location No.	Description	SEC. Code	Q'ty	Remark
1	ASS'Y-SCAN UNIT	JG96-01052A	1	
2	ASS'Y-OPE UNIT	JG96-01053A	1	
3	ASS'Y-SCAN LOWER UNIT	JG72-40656A	1	
4	COVER-MIDDLE	JG72-00033A	1	
5	MEP, P/S, AC/DC	JG44-10050A	1	
6	ASS'Y-CASSETTE	JG97-00000C	1	
7	ASS'Y-HANDSET	JG96-01025B	1	
8	ASS'Y-CRADLE	JG96-01048A	1	
9	CHUTE-TX	JG75-10551A	1	
10	ASS'Y-BASE	JG96-01051B	1	
11	ASS'Y-ENGINE	JC96-01189A	1	
12	MEP, P/S, DC/DC, HVPS	JG44-10050E	1	
13	COVER-HARNESS	JG72-40556B	1	
14	ASS'Y-ENGINE LOWER	JG96-00555A	1	
15	ASS'Y-ENGINE UPPER	LG97-00524A	1	
16	SHAFT-HINGE	JG70-40509A	2	
17	COVER-REAR	JG72-40668A	1	
18	ASS'Y-TOP COVER	JG72-40667D	1	
19	COVER-TOP	JG96-01050A	1	
20	GUIDE-DOCUMENT(R)	¶S	1	
21	GUID- DOCUMENT(L)	¶S	1	
22	SPRING-CURVE	¶S	1	
23	GEAR-DOCUMENT GUIDE	¶S	1	
24	COVER-FOR DOCUMENT GUIDE	¶S	1	
25	STACKER-RX	JG72-40730A	1	
S1	SCREW, TAPTITE, B, PH, +, M3, L8	6003-000015	3	
S2	SCREW, TAPTITE, B, PH, +, M3, L10	6003-000196	17	
W1	MISCEL, RING E, #5	6044-000156	2	

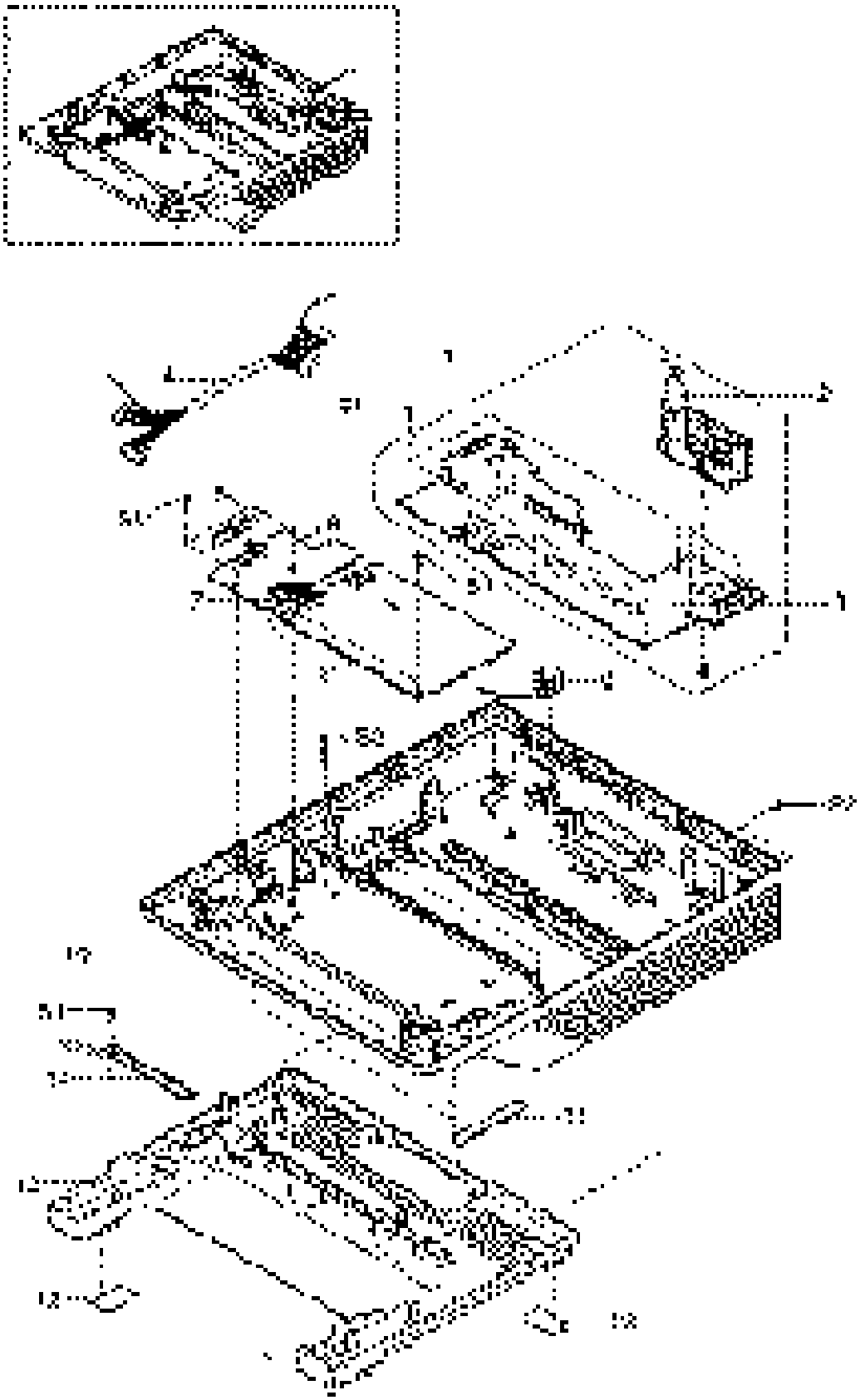
7-2. OPE Unit Assembly



OPE Unit Assembly Parts List

Location No.	Description	SEC. Part No.	Q'ty	Remark
	ASS'Y-OPE UNIT	JG96-01052A	1	
1	COVER-LCD	JG72-40680E	1	
2	ASS'Y-OPE COVER	JG96-01054A	1	
3	COVER-OPE	JG72-40679C	1	
4	KEY-ONE TOUCH(1)	JG72-40692A	1	
5	KEY-ONE TOUCH(2)	JG72-40693A	1	
6	KEY-TEL(3x4)	JG72-40681B	1	
7	KEY-SCROLL	JG72-40700A	1	
8	KEY-COPY	JG72-40686C	1	
9	KEY-START	JG72-40687A	1	
10	KEY-STOP	JG72-40691A	1	
11	KEY-CONTRAST	JG72-40564A	2	
12	KEY-FUNCTION	JG72-40685A	1	
13	PLATE-SHIELD	JG71-10508A	1	
14	RUBBER-CONTACT(O/T)	JG72-40778A	1	
15	RUBBER-CONTACT(FUNC.)	JG72-40779A	1	
16	RUBBER-CONTACT(TEL.)	JG72-40780A	1	
17	PBA, OPE	JG92-00530A	1	
18	ASS'Y-SCAN OPE, 530mm, 5P	JG39-40081A	1	
19	CABLE CLAMP	6502-000121	1	
20	ASS'Y-SCAN UPPER	JG96-00544A	1	
21	EARTH SCAN, 140mm	JG39-40094A	1	
22	SPRING-PINCH	JG70-10650A	2	
23	SHAFT-PINCH	JF70-40521B	2	
24	ROLL-PINCH	JG72-40663A	4	
25	SUPPORT-ADF	JG72-40662A	1	
26	SPRING-COIL	JG70-40514A	1	
27	RUBBER-ADF	JG72-40781A	1	
28	SPRING-ADF(2)	JG70-10655A	1	
29	HOLDER-ADF	JG70-10662A	1	
30	FRAME-SCAN UPPER	JG72-40661A	1	
31	BRUSH-ANTISTATIC(S)	JF75-10663A	1	
S1	SCREW, TAPTITE, B, FH, +, M3, L8	6003-000143	1	
S2	SCREW, TAPTITE, B, PH, +, M3, L6	6003-000165	14	
S3	SCREW, TAPTITE, B, PH, +, M3, L8	6003-000263	7	

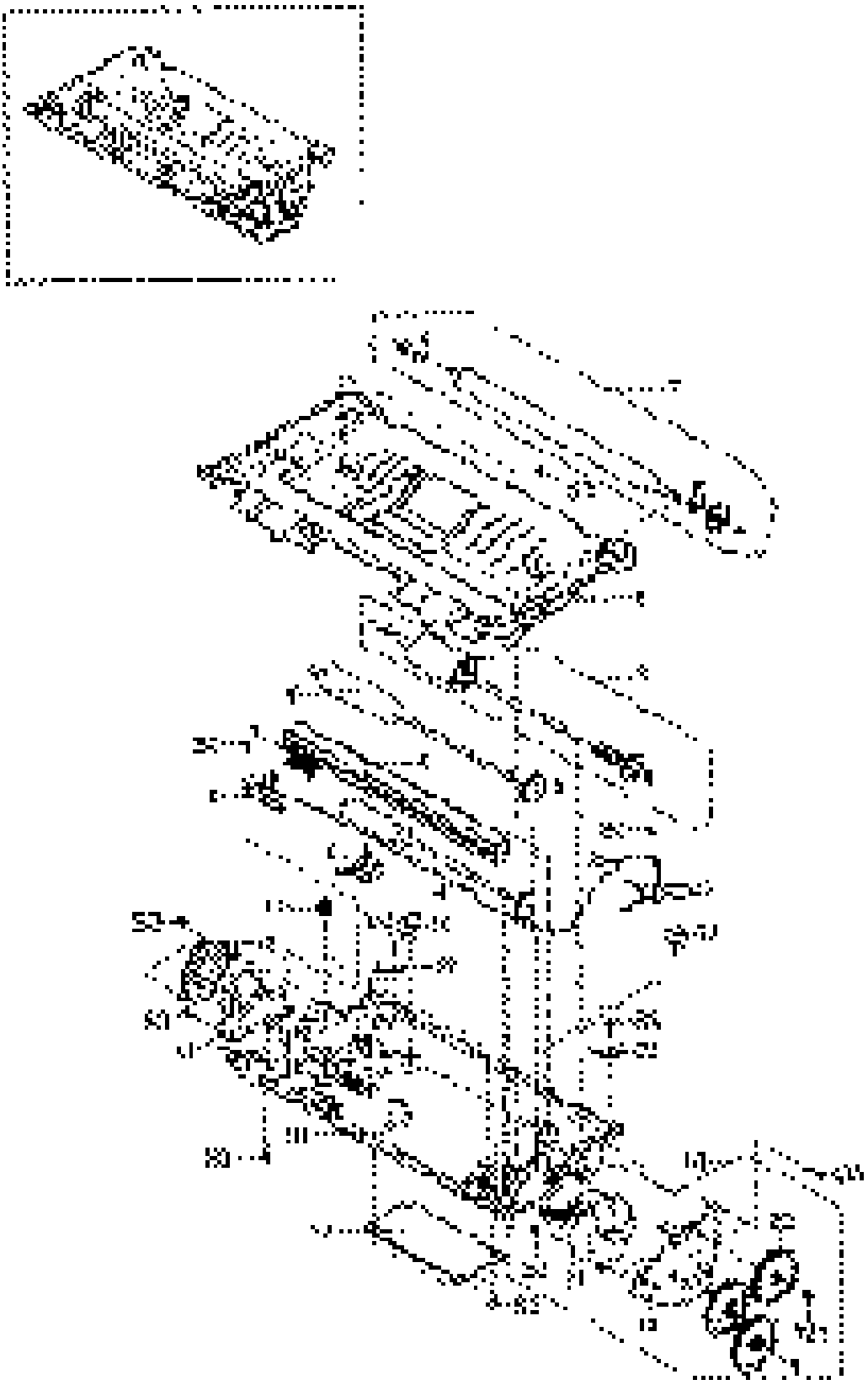
7-3 Base Unit Assembly



Base Unit Assembly Parts List

Location No.	Description	SEC. Part No.	Q'ty	Etc
	ASS'Y-BASE	JG96-01051A	1	Msys5600
		JG96-01051B	1	Msys5700
1	PBA, MOTHER	JG92-00532A	1	
2	ASS'Y-INLET	JG96-00549A	1	
3	PCB, MOTHER	JG41-10066A	1	
4	CBF-CONN, ASS'Y, 350mm, 22/10P	JG39-40077A	1	
5	DUMMY-VOLUME	JG72-40500E	1	
6	PBA, LIU	JG92-00529A	1	
7	CBF, CABLE-ASS'Y, 40mm	JG39-40102A	1	
8	PBA, MAIN	JG92-00537A	1	
9	LIU-LINE, 460mm, 5P	JG39-40102A	1	
10	COVER-BASE	JG72-40664G	1	
11	STICKER-DUMMY	JF72-10540C	2	
12	FOOT-RUBBER	JF72-41377A	4	
13	BASE-DUMMY	JG72-40712c	1	
14	PLATE EARTH	JG70-10663A	1	
S1	SCREW, TAPTITE, B, BH, +, M3, L8	6003-000015	10	
S2	SCREW, TAPTITE, B, PH, +, M3, L10	6003-000196	2	
S3	SCREW, TAPTITE, B, PH, +, M3, L16	6003-000163	4	

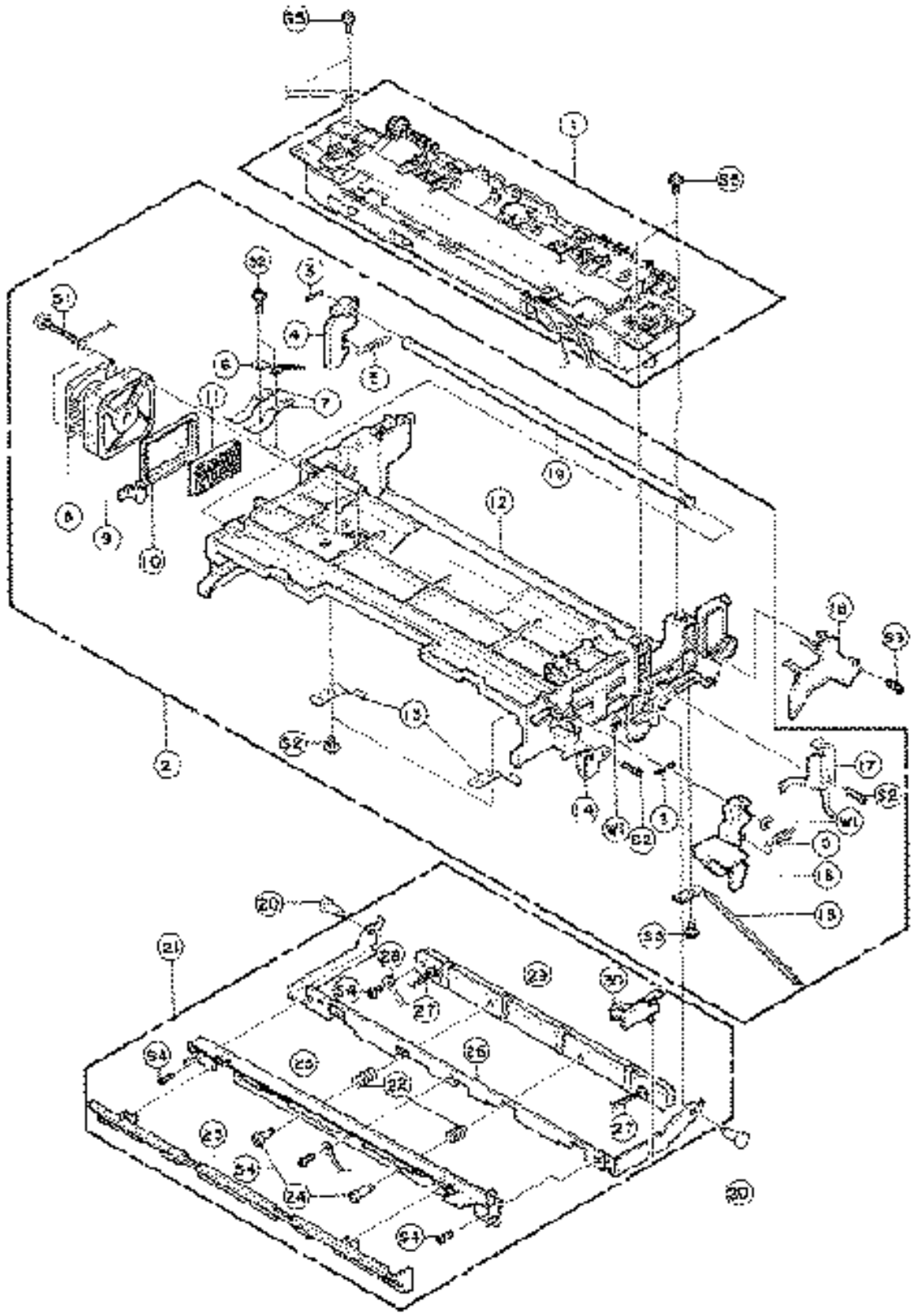
7-4 Scanner Unit Assembly



Scanner Unit Frame Assembly Parts List

Location No.	Description	SEC. Part No.	Q'ty	Etc
	ASS'Y-SCAN LOWER UNIT	JG96-00547B	1	
1	ASS'Y-WHITE ROLLER	JG97-00514A	1	
2	PAPER-SCAN GUIDE	JG72-40657A	1	
3	ASS'Y-ADF ROLLER	JG97-00513A	1	
4	ROLLER-DRIVE	JF75-10660A	2	
5	GEAR-DRIVE	JG72-40732B	2	
6	CONTACT IMAGE SENSOR	0609-000109	1	
7	ASS'Y-SCAN CIS, 170mm, 10P	JG39-40080A	1	
8	SPRING-EARTH(C)	JG70-10648A	1	
9	INTERRUPTER, TR, O2-570203-613A	0604-000235	1	
10	BUSHING-SUPPORT	JF72-40607A	6	
11	SPRING-CIS	JG70-40515A	3	
12	SPEAKER, 0.5W, 8OHM	3001-000214	1	
13	SPONGE-RING	JF73-40513A	1	
14	SPRING-EARTH(B)	JG70-10647A	1	
15	CBF, WIRE TERMINAL LUG, 135mm	JG39-40103A	1	
16	FRAME-SCAN LOWER	JG72-40656A	1	
17	PBA, SCAN	JF92-00668A	1	
18	ASS'Y-SCAN MOTOR	JG96-00548B	1	
19	BRACKET-MOTOR	JG70-10670A	1	
20	GEAR-IDLE	JG72-40732C	3	
21	MOTOR, 24V, 7.5DEG, 6P	3101-000150	1	
22	LOCKER-TX	JF70-10670A	2	
23	SPRING-EARTH(A)	JG70-10646A	1	
S1	SCREW, TAPTITE, B, PH, +, M3, L8	6003-000015	4	
S2	SCREW, TAPTITE, S, PH, +, M3, L6	6003-000266	2	
S3	SCREW, TAPTITE, B, PH, +, M3, L8	6003-000263	10	
W1	MISCEL, RING E, #3	6044-000159	5	

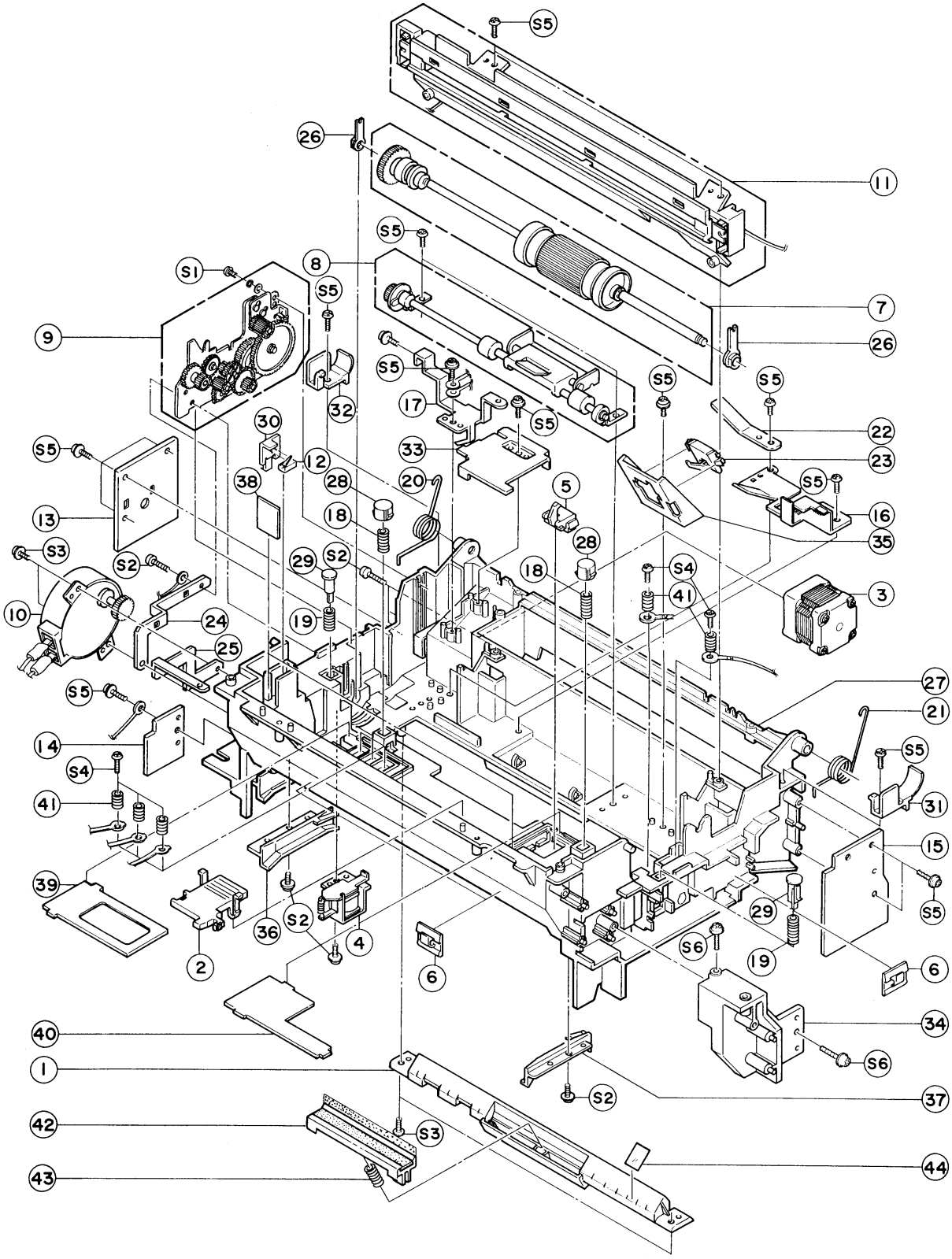
7-5 Engine Unit Upper Frame Assembly



Engine Unit Upper Frame Parts List

Location No.	Description	SEC. Part No.	Q'ty	Remark
	ASS'Y-ENGINE UPPER	¶S	1	
1	ASS'Y-FUSER(E)	JG96-00563B	1	
2	ASS'Y-FRAME UPPER(E)	JG96-00561A	1	
3	PIN-PICK UP	JG70-40508A	2	
4	HOLDER-LOCKER(L)	JG72-40582A	1	
5	SPRING-LOCKER(E)	JG70-40525A	2	
6	ASS'Y-OPE FUSE, 295mm, 3P	JG39-40104A	1	
7	PLATE-FUSE	JG70-10669A	2	
8	FILM-FAN	JG72-10512A	1	
9	FAN-DC, 24V, 45mA, 3400RPM	3103-000157	1	
10	HOLDER-FILTER	JG72-40556B	1	
11	FILTER-OZONE	JG71-40200A	1	
12	FRAME-UPPER(E)	JG72-40578A	1	
13	SPRING-PLATE(OPC)	JG70-10630A	2	
14	SPRING-LOCKER(LED)	JG70-10631A	1	
15	HOLDER-LOCKER(R)	JG72-40746A	1	
16	TIE-STOPPER	JG72-40717A	1	
17	PLATE-GROUND(OPC)	JG71-10510A	1	
18	COVER-WIRE(H)	JG72-40585A	1	
19	SHAFT-LOCKER	JG70-40507A	1	
20	SHAFT-LED	¶S	2	
21	ASS'Y-LPH(E1)	JG96-00562B	1	
22	SPRING-LED	¶S	2	
23	HOLDER-LED	¶S	1	
24	SHAFT-SCREW(LED)	¶S	2	
25	COVER-HOLDER	¶S	1	
26	BRACKET-LED	¶S	1	
27	ASS'Y-LPH SENSOR, 570mm, 12/8/4P	¶S	1	
28	CBF-TERMINAL LUG, 110mm	¶S	1	
29	LED PRINT HEAD	¶S	1	
30	COVER-WIRE	¶S	1	
S1	SCREW, TAPPING, PH, +, 2, M3, L26	6002-000362	2	
S2	SCREW, TAPTITE, B, BH, +, M3, L8	6003-000261	6	
S3	SCREW, TAPTITE, B, BH, +, M3, L8	6003-000015	2	
S4	SCREW, MACHINE, BH, +, M3, L6	¶S	4	
S5	SCREW, TAPTITE, B, BH, +, M3, L8	6003-000015	4	
W1	MISCEL, RING E, #4	6044-000111	3	

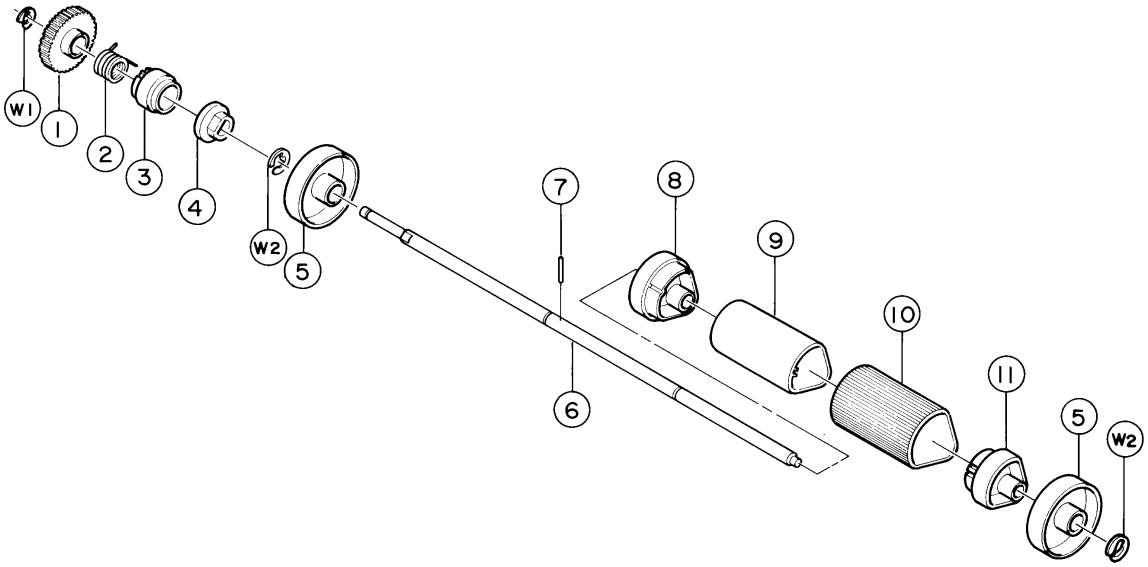
7-6 Engine Unit Lower Frame Assembly



Engine Unit Lower frame Parts List

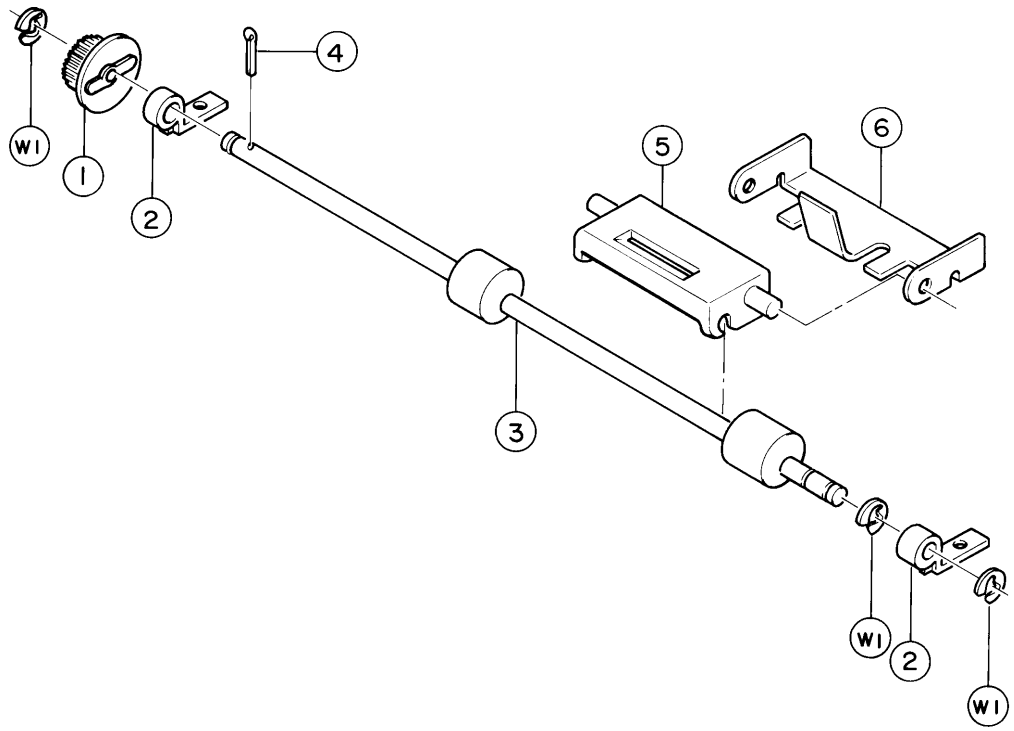
Location No.	Description	SEC. Part No.	Q'ty	Remark
	ASS'Y-ENGINE LOWER	¶S	1	
1	GUIDE-PAPER	JG97-00517A	1	
2	CLEAN-TRANSFER	JF75-10684A	1	
3	MOTOR-SEP, 4.2V. 1.8DEG	3101-000155	1	
4	MAG-DC, SOLENOID, DFH-08N2	LG33-10500A	1	
5	PEMPTY-SENSOR	0604-000233	1	
6	MISCEL, METAL CLAMP	6502-001019	2	
7	ASS'Y-PICK UP ROLLER(E)	JG97-00518A	1	
8	ASS'Y-FEED ROLLER(E)	JG97-00520A	1	
9	ASS'Y-GEAR BOX(E)	JG97-00521A	1	
10	ASS'Y-DEV.MOTOR(E)	JG96-00558A	1	
11	ASS'Y-TRANSFER(E)	JG96-00559A	1	
12	ASS'Y-MICRO SWITCH	JG96-00566A	1	
13	PBA-MECH	JG92-00533A	1	
14	PBA-CONN.	JG92-00536A	1	
15	PBA-SENSOR	JG92-00534A	1	
16	BRUSH-FEED(E)	JF75-10668A	1	
17	PLATE-GROUND(I)	JG71-10511A	1	
18	SPRING-DEV.	JG70-40521A	2	
19	SPRING-SUPPORT(LED)	JG70-40522A	2	
20	SPRING-HINGE(L)	JG70-40527A	1	
21	SPRING-HINGE(R)	JG70-40528A	1	
22	SPRING-GROUND(3)	JG71-10513A	1	
23	PICK-UP SENSOR	0604-000232	1	
24	PLATE-GROUND(5)	JG71-10514A	1	
25	PLATE-GROUND(6)	JG71-10515A	1	
26	BUSHING-SHAFT	JF72-41100A	2	
27	FRAME-LOWER(E)	JG72-40557A	1	
28	SUPPORT-DEV	JG72-40558A	2	
29	SUPPORT-LED	JG72-40559A	2	
30	BRACKET-MICRO S/W	JG72-40560A	1	
31	SUPPORT-HINGE(R)	JG72-40561A	1	
32	SUPPORT-HINGE(L)	JG72-40562A	1	
33	CAP-GROUND	JG72-40563A	1	
34	HOLDER-FOR HVPS	JG72-40745A	1	
35	BRACKET-JAM SENSOR	JG72-40638A	1	
36	GUIDE-CASSETTE(L)	JG72-40645A	1	
37	GUIDE-CASSETTE(R)	JG72-40646A	1	
38	SUPPORT-RUBBER	JG72-40798A	2	
39	COVER-SENSOR(T)	JG72-10508A	1	
40	COVER-SENSOR(E)	JG72-10509A	1	
41	SPRING-TERMINAL(L)	6107-000150	5	
42	ASS'Y-PAD FRICTION	JG99-00505A	1	
43	SPRING-PAD	JG70-40530A	1	
44	FILM-SENSOR	JG72-10525A	1	
S1	SCREW, MACHINE, B, PH, +, M3, L8	6006-000190	1	
S2	SCREW, MACHINE, B, PH, +, M3, L8	6006-000190	6	
S3	SCREW, MACHINE, B, PH, +, M3, L6	6001-000131	2	
S4	SCREW, TAPTITE, B, PH, +, M3, L8	6003-000168	5	
S5	SCREW, TAPTITE, B, BH, +, M3, L8	6003-000015	22	
S6	SCREW, TAPTITE, F, B,. PH, +, M3, L8	6003-000263	2	

7-7 Pick-Up Unit Assembly(in engine unit)



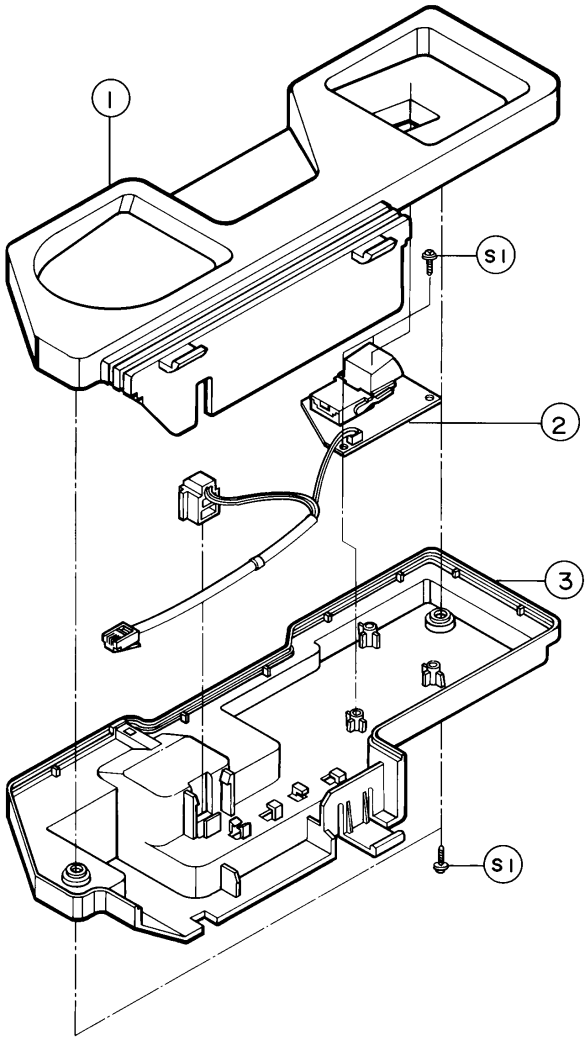
Location No.	Description	SEC. Part No.	Q'ty	Remark
	ASS'Y-PICK UP ROLLER(E)	JG97-00518A	1	
1	GEAR-CLUTCH	¶S	1	
2	SPRING-CLUTCH	¶S	1	
3	COLLAR-SPRING	¶S	1	
4	HUB-CLUTCH	¶S	1	
5	ROLL-PICK UP	¶S	2	
6	SHAFT-PICK UP	¶S	1	
7	PIN-PICK UP	¶S	1	
8	HOUSING-PICK UP(L)	¶S	1	
9	HOUSING-PICK UP(C)	¶S	1	
10	RUBBER PICK-UP	¶S	1	
11	HOUSING-PICK UP(R)	¶S	1	
W1	MISCEL, RING E, #4	6044-000111	1	
W2	MISCEL, RING E, #6	6044-000157	2	

7-8 Feed ROller Unit Assembly(in engine unit)



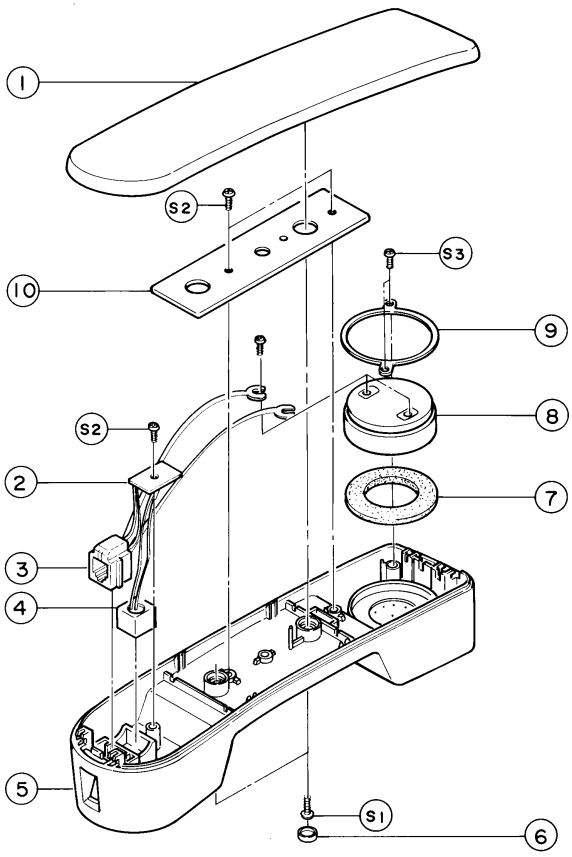
Location No.	Description	SEC. Part No.	Q'ty	Remark
	ASS'Y-FEED ROLLER(E)	JG97-00520A	1	
1	GEAR-FEED	JG72-40635A	1	
2	BUSHING-FEED	JG72-40634A,B	1,1	
3	ROLLER-FEED	JF75-10667A	1	
4	PIN-PICK UP	JG70-40508A	1	
5	ARM-FEED	JG72-40633A	1	
6	SPRING-ARM	JG70-10641A	1	
W1	MISCEL, RING E, #4	6044-000111	3	

7-9 Cradel Unit Assembly



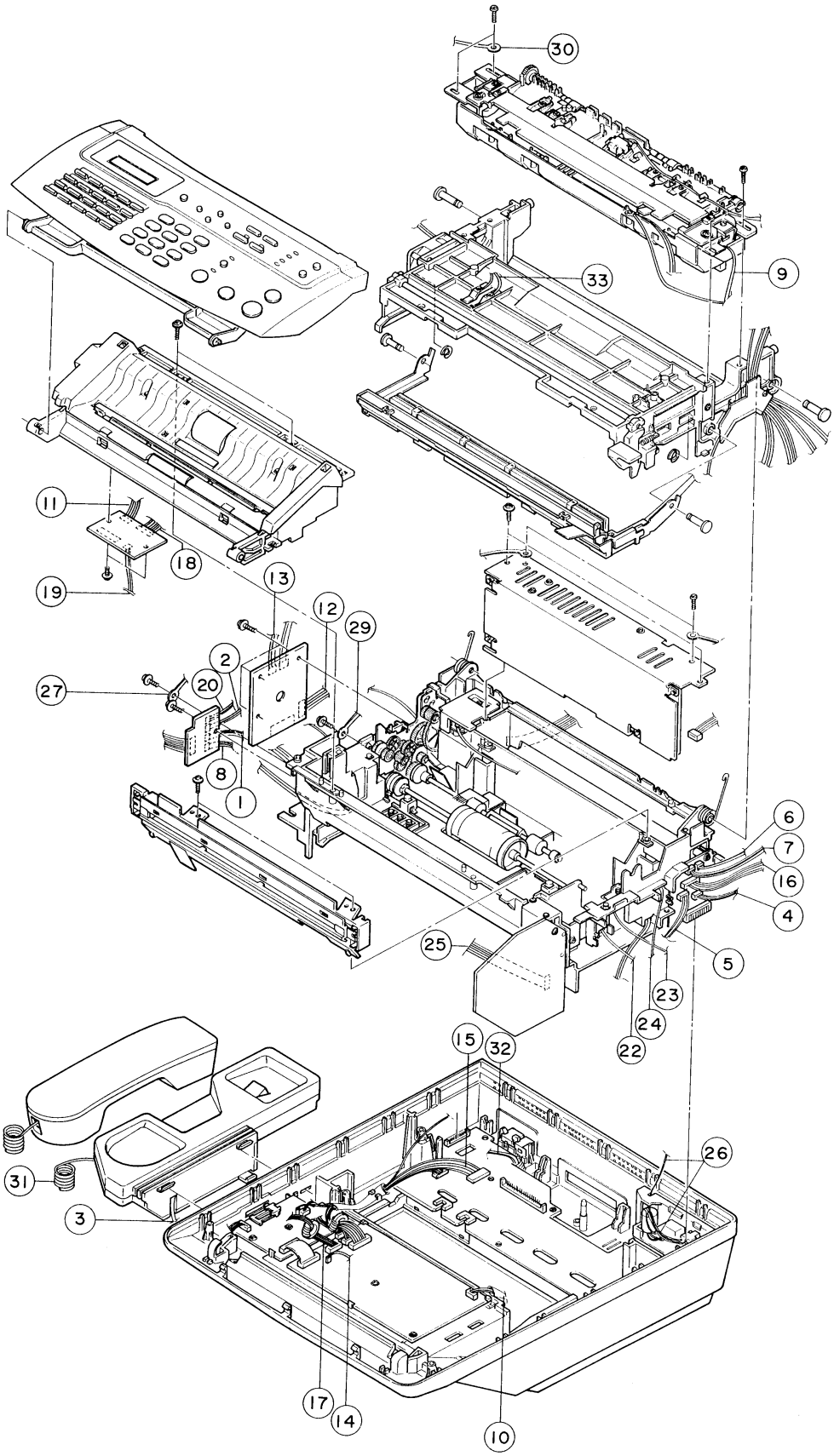
Location No.	Description	SEC. No.	Q'ty	Remark
	ASS'Y-CRADLE	JG96-01048A	1	
1	CRADLE-UPPER	JG72-40676A	1	
2	PBA-HOOK	JG92-00535A	1	
3	CRADLE-LOWER	JG72-40675A	1	
S1	SCREWM TAPTITE, B, BH, +, M3, L8	6003-000015	4	

7-10Handset Unit Assembly



Location No.	Description	SEC.No.	Q'ty	Remark
	ASS'Y-HANDSET	JG96-01025B	1	
1	HANDSET-UPPER	JF72-40003A	1	
2	BRACKET-SPEAKER	¶S	1	
3	AUDIO MICROPHONE, 1.5V, 64DB	¶S	1	
4	MICROPHONE-ADAPTER	GB72-40770A	1	
5	HANDSET-LOWER	JF72-40004A	1	
6	HOLE-DUMMY	JF73-40512A	2	
7	O RING, ID 17, OD 35	¶S	1	
8	AUDIO UNIT, 1650HM, 98.5DB	3009-001025	1	
9	UNIT FIXING BRACKET	GB70-10500A	1	
10	WEIGHT BALANCE	¶S	1	
S1	SCREW, TAPTITE, B, PH, +, M3, L8	¶S	2	
S2	SCREW, TAPTITE, B, PH, +, M3, L6	¶S	4	
S3	SCREW, TAPTITE, B, PH, +, M3, L8	¶S	2	

7-11 Harness Assembly



Harness Assemb;y Parts List

Location No.	Description	SEC No	Q'ty	Remark
1	ASS'Y-AC MOTOR, 80mm, 2P	JG39-40083A		
2	ASS'Y-TONER SCANNER, 230mm, 3P	JG39-40085A		
3	PBA-HOOK	JG92-00535A		
4	PEMPTY SENSOR	0604-000233		
5	PICK-UP SENSOR	0604-000232		
6	INTERRUPTER, TR, SIU-5009	¶S		
7	THERMISTER ASS'Y	¶S		
8	MAG-DC SOLENOID, DFH-08N2	¶S		
9	LAMP, HALOGEN, 220V, 3.48A	¶S		
10	MEP, P/S, DC/DC, HVPS	JG44-10050E		
11	MEP, MOTOR, 24V, 7.5DEG, 6P	3101-000150		
12	MOTOR-STEP, 4.2V, 1.8DEG	3101-000155		
13	FAN-DC, 24V, 45mA, 3400RPM	3103-000157		
14	ASS'Y-MAIN SCAN, 150mm, 22P	JG39-40076A		
15	ASS'Y-MAIN MOTOR, 350mm, 22/10	JG39-40077A		
16	ASS'Y-LPH SENSOR, 570mm, 12/8/4	JG39-40078A		
17	ASS'Y-MAIN CONN, 160mm, 7P	JG39-40079A		
18	ASS'Y-SCAN CIS, 170mm, 10P	JG39-40080A		
19	ASS'Y-SCAN OPE, 530mm, 5P	JG39-40081A		
20	ASS'Y-COVER SW, 100mm, 2P	JG39-40082A		
22	BIAS WIRE, 90mm	JG39-40086A		
23	CC WIRE, 230mm	JG39-40087A		
24	TC WIRE, 250mm	JG39-40088A		
25	EARTH HVPS, 340mm	JG39-40089A		
26	EARTH INLET, 210mm	JG39-40093A		
27	EARTH SCAN, 140mm	JG39-40094A		
29	EARTH TC, 70mm	JG39-40095A		
30	EARTH FAN FRAME, 170/100mm	JG39-40099A		
31	CURL CORD, 490mm	JG39-60500A		
32	HARNESS ASS'Y	JG39-40101A		
33	ASS'Y-OPE FUSE, 280mm, 3P	JG39-40104A		

CHAPTER 8
Electrical Parts Lists

8-1. MAIN PBA (JG92-00537A)

No	Description	Part Nunmber	SEC Code	Remark
BAT	NI-CD BATTERY	53306-303-024	4302-000126	
C 1	Electrolytic	l00 µF / 16V	2401-000025	
C 2	Electrolytic	l0 µF / 16V	2401-000050	
C 3	Electrolytic	l0 µF / 16V	2401-000050	
C 4	Electrolytic	2.2 µF / 16V	2401-000629	
C 5	Electrolytic	l00 µF / 16V	2401-000025	
C 6	Electrolytic	33 µF / 35V	2401-000185	
C 7	Electrolytic	33 µF / 35V	2401-000185	
C 8	Electrolytic	22 µF / 16V	2401-000913	
C 9	Electrolytic	22 µF / 16V	2401-000913	
C10	Electrolytic	l00 µF/25V	2401-000310	
C11	Electrolytic	33 µF / 50V	2401-001195	
C12	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C13	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C14	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C15	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C16	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C17	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C18	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C19	C-Chip, 30 pF, J	GRM42-6COG300J50PT	2203-000750	
C20	C-Chip, 30 pF, J	GRM42-6COG300J50PT	2203-000750	
C21	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C22	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C23	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C24	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 25	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 26	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 27	C-Chip, 100 pF, J	GRM42-6COGlOlJ50PT	2203-000242	
C 28	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 29	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 30	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 31	C-Chip, 100 pF, J	GRM42-6COGlOlJ50PT	2203-000242	
C 32	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 33	C-Chip, 100 pF, J	GRM42-6COGlOlJ50PT	2203-000242	
C 34	C-Chip, 100 pF, J	GRM42-6COGlOlJ50PT	2203-000242	
C 35	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 36	C-Chip, 100 nF, Z	GRN42-6Y5V104Z25PT	2203-000196	
C 37	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 38	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 39	C-Chip, 330 pF, J	GRM42-6COG331J50PT	2203-000789	
C 40	C-Chip, 200 pF, J	GRM42-6COG201J50PT	2203-000544	
C 41	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 42	C-Chip, 120 pF, J	GRM42-6COG121J50PT	2203-000319	

No	Description	Part Nunmber	SEC Code	Remark
C 43	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 44	C-Chip, 47 pF, J	GRM42-6COG470J50PT	2203-001005	
C 45	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 46	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 47	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 48	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 49	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 50	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 51	C-Chip, 75 pF, J	GRM42-6COG750J50PT	2203-001194	
C 52	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 53	C-Chip, 3.3 nF, K	GRM42-6X7R332K50PT	2203-000717	
C 54	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 55	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 56	C-Chip, 10 nF, k	GRM42-6X7R103K50PT	2203-000262	
C 57	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 58	C-Chip, 100 pF, J	GRM42-6COGlOlJ50PT	2203-000242	
C 59	C-Chip, 4 pF, J	GRM42-6COG040C50PT	2203-001024	
C 60	C-Chip, 10 nF, J	GRM42-6X7R103K50PT	2203-000262	
C 61	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 62	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 63	C-Chip, 10 nF, J	GRM42-6X7R103K50PT	2203-000262	
C 64	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 65	C-Chip, 1 nF, J	GRM42-6COG102J50PT	2203-000457	
C 66	C-Chip, 100 nF, K	GRM42-6X7R104K50PT	2203-000208	
C 67	C-Chip, 68 nF, K	GRM42-6X7R683K50PT	2203-001145	
C 68	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 69	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 70	C-Chip, 22 pF, J	GRM42-6COG220J50PT	2203-000636	
C 71	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 72	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 73	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 74	C-Chip, 47 nF, K	GRM42-6g7R473K50PT	2203-000983	
C 75	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 76	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 77	C-Chip, 470 pF, J	GRM42-6COG471J50PT	2203-000955	
C 78	C-Chip, 22 nF, K	GRM42-6g7R223K50PT	2203-000612	
C 79	C-Chip, 10 nF, J	GRM42-6X7R103K50PT	2203-000262	
C 80	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 81	C-Chip, 100 nF, K	GRM42-6X7R104K50PT	2203-000208	
C 83	C-Chip, 47 nF, K	GRM42-6g7R473K50PT	2203-000983	
C 84	C-Chip, 82 pF, J	GRM42-6COG820J50PT	2203-001247	
C 85	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 86	C-Chip, 100 nF, K	GRM42-6X7R104K50PT	2203-000208	
C 87	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	

No	Description	Part Nunmber	SEC Code	Remark
C 88	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 89	C-Chip, 470 pF, J	GRM42-6COG471J50PT	2203-000955	
C 90	C-Chip, 470 pF, J	GRM42-6COG471J50PT	2203-000955	
C 91	C-Chip, 470 pF, J	GRM42-6COG471J50PT	2203-000955	
C 92	C-Chip, 470 pF, J	GRM42-6COG471J50PT	2203-000955	
C 93	C-Chip, 47 nF, K	GRM42-6g7R473K50PT	2203-000983	
C 94	Electrolytic	100 µF / 16V	2401-000025	
C 95	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 96	C-Chip, 100 nF, K	GRM42-6X7R104K50PT	2203-000208	
C 97	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C 99	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C100	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C101	C-Chip, 100 nF, Z	GRM42-6Y5V104Z25PT	2203-000196	
C102	C-Chip Ta,10uF, M	TAJC106MOlOR	2404-000283	
C103	C-Chip, 470 pF, J	GRM42-6COG471J50PT	2203-000955	
C104	C-Chip, 470 pF, J	GRM42-6COG471J50PT	2203-000955	
C105	C-Chip, 150 pF, J	GRM42-6COG151J50PT	2203-001465	
C106	C-Chip, 330 pF, J	GRM42-6COG331J50PT	2203-000789	
C107	C-Chip, 330 pF, J	GRM42-6COG331J50PT	2203-000789	
C108	C-Chip, 330 pF, J	GRM42-6COG331J50PT	2203-000789	
C120	Electrolytic	100 µF / 16V	2401-000025	
D 1	D-Array	DA204KT147	0407-001008	
D 2	D-Rectifier	TMPD914	0401-000113	
D 3	D-Array	DA204KT147	0407-001008	
D 4	D-Array	DA204KT147	0407-001008	
D 6	D-Rectifier	TMPD914	0401-000113	
D 7	D-Rectifier	TMPD914	0401-000113	
D 9	D-Rectifier	TMPD914	0401-000113	
D10	D-Rectifier	TMPD914	0401-000113	
D11	D-Rectifier	TMPD914	0401-000113	
D15	D-Rectifier	TMPD914	0401-000113	
D16	D-Array	DA204KT147	0407-001008	
D17	D-Array	DA204KT147	0407-001008	
JP 1	Connector	SP504-S02B	3711-001422	
JPA 1	Con-Shunt	SHT5-A4	3710-000104	
L 1	Core-Ferrite,Bead		3301-000370	
L 2	Coil-Filter		JF27-60051A	
L 3	Core-Ferrite,Bead		3301-000271	
L 4	Coil-Filter		JF27-60051A	
L 5	Iductor-SMD		2703-000204	
L 6	Iductor-SMD		2703-000204	
L 7	Iductor-SMD		2703-000204	
L 8	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
L 9	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	

No	Description	Part Nunmber	SEC Code	Remark
L10	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
L11	Core-Ferrite,Bead		3301-000271	
P 1	Connector, 22 P		3711-002002	
P 2	Connector, 22 P		3711-002002	
P 3	Connector, 11 P		3711-000404	
P 4	Flat Cable, 20 P		3708-000208	
P 5	Connector, 5 P		3711-000484	
P60	Connector, 7 P		3711-000503	
PCB	MAIN PCB	MAIN PCB (FR4, 4 Layer)	JG41-10071A	
Q 1	IC-Voltage COMP		1202-000159	
Q 2	Voltage Regulator	KA79L05AZ / TR	1203-000419	
Q 3	TR	KSA928A-Y-TA (PNP)	0501-000317	
Q 4	TR, Chip, NPN	KSC1623-Y (NPN)	0501-000338	
Q 5	TR, Chip, PNP	KSA1182-Y (PNP)	0501-000279	
Q 6	TR, Chip, NPN	KSC1623-Y (NPN)	0501-000338	
Q 7	TR, Chip, NPN	KSC1623-Y (NPN)	0501-000338	
Q10	TR-Power		0502-000236	
Q11	TR, Chip, NPN	KSC1623-Y (NPN)	0501-000338	
R 1	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 2	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 3	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 4	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 5	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 6	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 7	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 8	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 9	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 10	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 11	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 12	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 13	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 14	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 15	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 16	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 17	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 18	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 19	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 20	R-Chip, 22 ohm, J	MCR18EZHJ220	2007-000598	
R 21	R-Chip, 22 ohm, J	MCR18EZHJ220	2007-000598	
R 22	R-Chip, 22 ohm, J	MCR18EZHJ220	2007-000598	
R 23	R-Chip, 330 ohm, J	MCR18EZHJ331	2007-000768	
R 24	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 25	R-Chip, 150 ohm, J	MCR18EZHJ151	2007-000403	
R 26	R-Chip, 470 ohm, J	MCR18EZHJ471	2007-000934	

No	Description	Part Nunmber	SEC Code	Remark
R 27	R-Chip, 1 kohm, J	MCR18EZHJ102	2007-000472	
R 28	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 29	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 30	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
R 31	R-Chip, 1 kohm, J	MCR18EZHJ102	2007-000472	
R 32	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 33	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 34	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 35	R-Chip, 330 kohm, J	MCR18EZHJ334	2007-000761	
R 36	R-Chip, 330 kohm, J	MCR18EZHJ334	2007-000761	
R 37	R-Chip, 180 ohm, J	MCR18EZHJ181	2007-000451	
R 38	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 39	R-Chip, 2.2 kohm, J	MCR18EZHJ222	2007-000496	
R 41	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 42	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 43	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 44	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 45	R-Chip, 30 kohm, J	MCR18EZHJ303	2007-000740	
R 46	R-Chip, 470 ohm, J	MCR18EZHJ471	2007-000934	
R 47	R-Chip, 3 ohm, J	MCR18EZHJ030	2007-000850	
R 48	R-Chip, 200 ohm, J	MCR18EZHJ201	2007-000542	
R 49	R-Chip, 220 ohm, J	MCR18EZHJ221	2007-000575	
R 50	R-Chip, 180 ohm, J	MCR18EZHJ181	2007-000451	
R 51	R-Chip, 2.2 kohm, J	MCR18EZHJ222	2007-000496	
R 52	R-Chip, 10 Mohm, J	MCR18EZHJ106	2007-000306	
R 53	R-Chip, 2.2 kohm, J	MCR18EZHJ222	2007-000496	
R 54	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 55	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 56	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 57	R-Chip, 56 kohm, J	MCR18EZHJ563	2007-001041	
R 58	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 59	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 60	R-Chip, 5.6 kohm, J	MCR18EZHJ562	2007-000984	
R 61	R-Chip, 200 ohm, J	MCR18EZHJ201	2007-000542	
R 62	R-Chip, 5.1 kohm, J	MCR18EZHJ512	2007-000967	
R 63	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
R 64	R-Chip, 150 kohm, J	MCR18EZHJ154	2007-000397	
R 65	R-Chip, 470 ohm, F	MCR18EZHF4700	2007-000930	
R 66	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 67	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 68	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 69	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 70	R-Chip, 1 kohm, J	MCR18EZHJ102	2007-000472	
R 71	R-Chip, 270 kohm	MCR18EZHJ274	2007-000638	

No	Description	Part Nunmber	SEC Code	Remark
R 72	R-Chip, 22 kohm, J	MCR18EZHJ223	2007-000589	
R 73	R-Chip, 330 ohm, J	MCR18EZHJ331	2007-000768	
R 74	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 75	R-Chip, 22 kohm, J	MCR18EZHJ223	2007-000589	
R 76	R-Chip, 56 kohm, J	MCR18EZHJ563	2007-001041	
R 77	R-Chip, 220 kohm, J	MCR18EZHJ224	2007-000568	
R 78	R-Chip, 470 ohm, F	MCR18EZHF4700	2007-000930	
R 79	R-Chip, 680 ohm, J	MCR18EZHJ681	2007-001121	
R 80	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 81	R-Chip, 56 kohm, J	MCR18EZHJ563	2007-001041	
R 82	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 83	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 84	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 85	R-Chip, 5.1 kohm, J	MCR18EZHJ512	2007-000967	
R 86	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 87	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R 88	R-Chip, 56 kohm, J	MCR18EZHJ563	2007-001041	
R 90	R-Chip, 1 kohm, J	MCR18EZHJ102	2007-000472	
R 91	R-Chip, 180 ohm, J	MCR18EZHJ181	2007-000451	
R 92	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R 93	R-Chip, 12 kohm, J	MCR18EZHJ123	2007-000359	
R 94	R-Chip, 47 ohm	MCR18EZHJ470	2007-000950	
R 95	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R 96	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R 97	R-Chip, 402, F	MCR18EZHF4020	2007-000892	
R 98	R-Chip, 3.9 kohm, F	MCR18EZHF3901	2007-000709	
R 99	R-Chip, 120 ohm, J	MCR18EZHJ121	2007-000346	
R100	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R101	R-Chip, 330 ohm, J	MCR18EZHJ331	2007-000768	
R102	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R103	R-Chip, 470 ohm, J	MCR18EZHJ471	2007-000934	
R104	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R106	R-Chip, 820 ohm, J	MCR18EZHJ821	2007-001203	
R107	R-Chip, 1 Mohm, J	MCR18EZHJ105	2007-000481	
R108	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R109	R-Chip, 39 kohm, J	MCR18EZHJ393	2007-000834	
R110	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R111	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
R112	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R113	R-Chip, 10 Mohm, J	MCR18EZHJ106	2007-000306	
R114	R-Chip, 12 kohm, J	MCR18EZHJ123	2007-000359	
R115	R-Chip, 2.2 kohm, J	MCR18EZHJ222	2007-000496	
R116	R-Chip, 1 kohm, J	MCR18EZHJ102	2007-000472	
R117	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	

No	Description	Part Nunmber	SEC Code	Remark
R118	R-Chip, 270 kohm	MCR18EZHJ274	2007-000638	
R119	R-Chip, 10 ohm, J	MCR18EZHJ100	2007-000312	
R120	R-Chip, 100 kohm, J	MCR18EZHJ104	2007-000285	
R121	R-Chip, l kohm, F	MCR18EZHF1001	2007-000467	
R122	R-Chip, 3.9 kohm, F	MCR18EZHF3901	2007-000709	
R123	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R124	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R125	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R126	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R127	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R128	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R129	R-Chip, 150 kohm, J	MCR18EZHJ154	2007-000397	
R130	R-Chip, 22 kohm, J	MCR18EZHJ223	2007-000589	
R131	R-Chip, 1 Mohm, J	MCR18EZHJ105	2007-000481	
R132	R-Chip, 330 kohm, J	MCR18EZHJ334	2007-000761	
R134	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R135	R-Chip, 47 kohm, J	MCR18EZHJ473	2007-000944	
R136	R-Chip, 12 kohm, J	MCR18EZHJ123	2007-000359	
R137	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R138	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
R139	R-Chip, 4.7 kohm, J	MCR18EZHJ472	2007-000875	
R140	R-Chip, 10 kohm, J	MCR18EZHJ103	2007-000303	
R141	R-Chip, 330 ohm, J	MCR18EZHJ331	2007-000768	
R142	R-Chip, 180 ohm, J	MCR18EZHJ181	2007-000451	
R143	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
R145	R-Chip, 0 ohm, J	MCR18EZHJ000	2007-000033	
S1	32 Pin, ROM Socket	WSDIF-32T	3704-000255	
S2	32 Pin, ROM Socket	WSDIF-32T	3704-000255	
S3	8 Pin Socket	WSDIF-8T	3704-000346	
U1	512k x 8bit, DRAM	KM48C512LJ-8	1105-000181	
U2	512k x 8bit, DRAM	KM48C512LJ-8	1105-000181	
U3	32k x 8bit, SRAM	24257	1106-001069	
U4	512k x 8bit, DRAM	KM48C512LJ-8	1105-000181	
U5	512k x 8bit, DRAM	KM48C512LJ-8	1105-000181	
U6	256 x 8 bit, EPROM	AM27C020-150DC	1102-000135	
U7	256 x 8 bit, EPROM	AM27C020-150DC	1102-000135	
U8	SDIP2	STL7057	JG13-10050A	
U9	CPU (PLCC TYPE)	NS32FV16-20	0903-000139	
U10	FAX Controller(QFP TYPE)	NS32FX200-20	0903-000193	
U11	8 k x 8bit, SRAM	KM6264ALG-10	1106-000269	
U12	64 Pin I/O Port Gate Array	STL6120A/B	JG13-10051A	
U13	Voltage Comparator	LM311D/LM311M	1202-000174	
U14	Dual op amp	TL082CD	1201-000178	
U15	Dual op amp	MC4558CD	1201-000423	

No	Description	Part Nunmber	SEC Code	Remark
U16	Dual op amp	MC4558CD	1201-000423	
U17	Octal 3 State bus driver	CD74HC244M	0801-000945	
U18	Current driver	ULN2003L	0506-000182	
U19	Op amp	LM318M	1201-000289	
U20	TRI 2 Channel analog mux		0801-000206	
U21	TRI 2 Channel analog mux		0801-000206	
U22	Toner motor driver		1003-000245	
U23	Current driver	TD62503F	0506-000178	
U24	Dual op amp	MC4558CD	1201-000423	
U25	Dual op amp	TL082CD	1201-000178	
U26	TRI 2 Channel analog mux		0801-000206	
U27	TX Motor driver	ULN2065B	881 802065AA	
U28	TRI 2 Channel analog mux		0801-000206	
U29	EEPROM (64k × 16)	KM93C46	1103-000178	
U30	Audio amp	LM386N	1201-000416	
U31	Dual Comparator	LM393D	1202-000164	
Y 1	Resonator	CSA8.OOMTZ-TF01	2802-000008	
Y 2	Oscillator	DX0-1,39.3216MHz,20	2804-000271	
Y 3	455kHz Resonator	CSB455E	2802-000152	
ZD 1	Zener diode	1N4746A (18V)	0403-000153	
ZD 2	Zener diode	1N4746A (18V)	0403-000153	
ZD 3	Zener diode	BZX55C3V3	0403-000239	

8-2. LIU PBA (JG92-00529A)

No	Description	Part Nunmber	SEC Code	Remark
AR1	SURGE ABSORBER:400V, 20%		4715-000120	
AR2	SURGE ABSORBER:400V, 20%		4715-000120	
AR3	SURGE ABSORBER:400V, 20%		4715-000120	
AR4	SURGE ABSORBER:400V, 15%		4715-000119	
AR5	SURGE ABSORBER:400V, 15%		4715-000119	
C1	C-FILM, PEF:1nF, 5%, 50V, TP		2301-000340	
C2	C-FILM, MPEF, 470nF, 10%, 250V		2305-000585	
C3	C-AL:2.2uF, 20%, 16V, GP, TP		2401-000629	
C4	C-FILM, MPEF, 15 nF, 630V, 20%		2305-000199	
D1	DIODE-SWITCHING:1N914		0401-000148	
D2	DIODE-SWITCHING:1N914		0401-000148	
D3	DIODE-SWITCHING:1N914		0401-000148	
D4	DIODE-SWITCHING:1N914		0401-000148	
D5	DIODE-SWITCHING:1N914		0401-000148	
D6	DIODE-SWITCHING:1N914		0401-000148	
FG	CONNECTOR-TERMINAL:PIN		3712-000448	
JP1	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP2	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP3	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP4	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP5	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP6	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP7	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP8	CBF-HARNESS:52MM, AWG22		BH39-40305U	
JP9	CBF-HARNESS:52MM, AWG22		BH39-40305U	
K1	RELAY-MINIATURE:12V, 150mW		3501-000157	
L1	INDUCTOR-RADIAL:80uH, 35%		2702-000190	
P7	CONNECTOR-FPC/PIC:20 P		3708-000208	
P8	CONNECTOR-HEADER:3WALL, 5P		3711-000484	
P47	CONNECTOR-HEADER:3WALL, 6P		3711-000496	
PCB	PCB-LIU			
R1	R-METAL, 1.2kohm, 5%, 1/4W		2004-000128	
R2	R-METAL, 82ohm, 5%, 1/4W		2004-001307	
R3	R-METAL, 82ohm, 5%, 1/4W		2004-001307	
R4	R-METAL, 10kohm, 5%, 1/8W		2004-000222	
R5	R-METAL, 2 kohm, 5%, 1/8W		2004-000683	
R 6	R-METAL-OXIDE, 15kohm, 5%, 1W		2003-000178	
R 7	R-METAL, 10kohm, 5%, 1/8W		2004-000222	
R 8	R-METAL, 2 kohm, 5%, 1/8W		2004-000683	
R 9	R-METAL, 10kohm, 5%, 1/8W		2004-000222	
R10	R-METAL, 5.6kohm, 2%, 1/8W		2004-001024	
R11	R-METAL, 100kohm, 5%, 1/8W		2004-000199	

No	Description	Part Nunmber	SEC Code	Remark
R12	R-METAL, 1kohm, 5%, 1/8W		2004-000437	
T1	TRANS-MATCHING		JF26-50066A	
T2	TRANS-MATCHING		JF26-50059A	
U1	RELAY-PHOTOMOS		3502-000102	
U2	PHOTO-COUPLER:TR,20-300%		0604-000124	
VAR1	VARISTER:82V,1200A,9x3.6m		1405-000170	
VR1	RES-VAR, SLIDE, 30KOHM		913 252007AG	
ZD1	DIODE-ZENER:1N4746A, 18V		0403-000153	
ZD2	DIODE-ZENER:1N4746A, 18V		0403-000153	
ZD3	DIODE-ZENER:MTZ4.7B, 4.7V		0403-000294	
ZD4	DIODE-ZENER:MTZ4.7B, 4.7V		0403-000294	
ZD5	DIODE-ZENER:MTZ4.7B, 4.7V		0403-000294	
ZD6	DIODE-ZENER:MTZ4.7B, 4.7V		0403-000294	

8-3. OPE PBA (JG92-00530A)

No	Description	Part Nunmber	SEC Code	Remark
C1	C-CERAMIC, CHIP:100 nF, +80%, -20%		2203-000196	
C2	C-CERAMIC, CHIP:47 pF, 5%		2203-001005	
C3	C-CERAMIC, CHIP:47 pF, 5%		2203-001005	
C4	C-AL:10uF, 20%, 16V, GP, TP		2401-000050	
C5	C-CERAMIC,CHIP:100 nF, +80%, -20%		2203-000196	
C6	C-CERANIC, CHIP:100 pF, 5%		2203-000242	
C7	C-CERANIC, CHIP:100 pF, 5%		2203-000242	
C8	C-CERAMIC,CHIP:100 nF, +80%, -20%		2203-000196	
C9	C-CERAMIC,CHIP:100 nF, +80%, -20%		2203-000196	
C10	C-CERAMIC,CHIP:100 nF, +80%, -20%		2203-000196	
C11	C-CERAMIC, CHIP:220 pF, 5%		2203-000597	
C12	C-CERAMIC, CHIP:220 pF, 5%		2203-000597	
C13	C-CERAMIC, CHIP:220 pF, 5%		2203-000597	
D1	DIODE-SCHOTTKY:RB420D, 25V		0404-000112	
D2	DIODE-SCHOTTKY:RB420D, 25V		0404-000112	
D3	DIODE-SCHOTTKY:RB420D, 25V		0404-000112	
D4	DIODE-SCHOTTKY:RB420D, 25V		0404-000112	
D5	DIODE-SCHOTTKY:RB420D, 25V		0404-000112	
D6	DIODE-SCHOTTKY:RB420D, 25V		0404-000112	
D7	DIODE-SWITCHING:MMBD914		0401-000113	
JMP1	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP2	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP3	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP4	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP5	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP6	CBF-HARNESS,52MM,AWG22		BH39-40305U	
LCD	DISPLAY-LCD		JG07-20050A	
LED 1	LED, CHIP, GREEN, 660nm		0601-000570	
LED 2	LED, CHIP, GREEN, 660nm		0601-000570	
LED 3	LED, CHIP, GREEN, 660nm		0601-000570	
LED 4	LED, CHIP, GREEN, 660nm		0601-000570	
LED 5	LED, CHIP, GREEN, 660nm		0601-000570	
LED 6	LED, CHIP, GREEN, 660nm		0601-000570	
LED 7	LED, CHIP, RED, 660nm		0601-000208	
LED 8	LED, CHIP, GREEN, 660nm		0601-000570	
P39	CBF-HARNESS		JG39-40081A	
P40	CBF-HARNESS		JG39-41018A	
PCB	PCB-OPE			
R1	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R2	R-CHIP, 200 ohm, 5%,1/8W		2007-000542	
R3	R-CHIP, 200 ohm, 5%,1/8W		2007-000542	
R4	R-CHIP, 10 kohm, 5%,1/8W		2007-000303	
R5	R-CHIP, 680 ohm, 5%,1/8W		2007-001121	

No	Description	Part Nunmber	SEC Code	Remark
R6	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R7	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R8	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R9	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R10	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R11	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R12	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R13	R-CHIP, 22 kohm, 5%,1/8W		2007-000589	
R14	R-CHIP, 180 ohm, 5%,1/8W		2007-000451	
R15	R-CHIP, 330 ohm, 5%,1/8W		2007-000768	
R16	R-CHIP, 330 ohm, 5%,1/8W		2007-000768	
R17	R-CHIP, 330 ohm, 5%,1/8W		2007-000768	
R18	R-CHIP, 330 ohm, 5%,1/8W		2007-000768	
R19	R-CHIP, 330 ohm, 5%,1/8W		2007-000768	
R20	R-CHIP, 330 ohm, 5%,1/8W		2007-000768	
R21	R-CHIP, 330 ohm, 5%,1/8W		2007-000768	
R22	R-CHIP, 150 ohm, 5%,1/8W		2007-000403	
R23	R-CHIP, 47 kohm, 5%,1/8W		2007-000944	
R24	R-CHIP, 120 kohm, 5%,1/8W		2007-000341	
S1	PHOTO-INTERRUPTER:TR		0604-000229	
U1	IC-MICOM MASK		JG09-10050A	
U2	IC-TTL:74LS32, OR GATE		0803-000884	
Y1	RESONATOR-CERAMIC:7.37MHz		2802-000185	

8-4. SCAN PBA (JF92-00668A)

No	Description	Part Nunmber	SEC Code	Remark
P32	CONNECTOR-HEADER:22P,2R		3711-002002	
P33	CONNECTOR-HEADER:3WALL, 10P		3711-000398	
P34	CONNECTOR-HEADER:3WALL, 5P		3711-000484	
P35	CONNECTOR-HEADER:3WALL, 6P		3711-000496	
P36	CONNECTOR-HEADER:3WALL, 3P		3711-000452	
P37	CONNECTOR-HEADER:3WALL, 2P		3711-000443	
L1	CORE-FERRITE BEAD:AB,		3301-000370	
C1	C-AL:6800uF, 20%, 6.3V, GP		2401-001641	
PCB	PCB, SCAN			

8-5 MOTHER PBA (JG92-00532A)

No	Description	Part Nunmber	SEC Code	Remark
CBF0	CBF-HARNESS		JG39-40090A	
CBF1	CBF-HARNESS		JG39-40091A	
CBF2	CBF-HARNESS		JG39-40092A	
CBF3	CBF-HARNESS		JG39-40093A	
JMP1	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP2	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP3	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP4	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP5	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP6	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP7	CBF-HARNESS,52MM,AWG22		BH39-40305U	
JMP8	CBF-HARNESS,52MM,AWG22		BH39-40305U	
P11	CONNECTOR-HEADER:3WALL, 11P		3711-000404	
P12	CONNECTOR-HEADER:BOX, 22P		3711-000765	
P13	CONNECTOR-HEADER:1WALL, 18P		3711-001856	
P14	CONNECTOR-HEADER:1WALL, 20P		3711-001857	
P15	CONNECTOR-HEADER:1WALL,12P		3711-002023	
P50	CONNECTOR-HEADER:NOWALL		3711-001428	
P100	JACK-AC POWER:3P		3722-000318	
PCB	PCB, MOTHER			
R1	R-METAL:200ohm, 5%, 1/8W		2004-000528	
R2	R-METAL:200ohm, 5%, 1/8W		2004-000528	
S1	PHOTO INTERRUPTER:TR		0604-000231	
S2	PHOTO INTERRUPTER:TR		0604-000231	
SW100	SWITCH-ROCKER:250V, 16A, DP		3402-000126	
PLT	PMO-HOLDER INLET		JG72-40677A	

8-6. MECH PBA (JG92-00533A)

No	Description	Part Nunmber	SEC Code	Remark
C1	C-CERAMIC, CHIP:100 nF, 10%		2203-000208	
C2	C-CERAMIC, CHIP:2.2 nF, 10%		2203-000499	
C3	C-CERAMIC, CHIP:2.2 nF, 10%		2203-000499	
C4	C-CERAMIC, CHIP:330 pF, 5%		2203-000789	
C5	C-CERAMIC, CHIP:330 pF, 5%		2203-000789	
C6	C-CERAMIC, CHIP:2.2 nF, 10%		2203-000499	
C7	C-CERAMIC, CHIP:2.2 nF, 10%		2203-000499	
C8	C-AL:33uF, 20%, 50VM GP, TP		2401-001197	
D1	DIODE-SWITCHING:MMBD914		0401-000113	
D2	DIODE-SWITCHING:MMBD914		0401-000113	
D3	DIODE-RECTIFIER:EK-04,40V		0402-000208	
D4	DIODE-RECTIFIER:EK-04,40V		0402-000208	
J2	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J3	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J4	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J5	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J6	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J7	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J8	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J9	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
J10	R-CHIP:0ohm, 5%, 1/8W		2007-000033	
P16	CONNECTOR-SOCKET:12P, 1R		3710-000133	
P17	CONNECTOR-HEADER:3WALL, 6P		3711-000492	
P20	CONNECTOR-HEADER:3WALL, 2P		3711-000443	
P51	CONNECTOR-HEADER: 3WALL, 3P		3711-000452	
PCB	PCB, MECH			
R1	R-CHIP: 4.7 kohm, 5%, 1/8W		2007-000875	
R2	R-CHIP: 4.7 kohm, 5%, 1/8W		2007-000875	
R3	R-CHIP, 47 kohm, 5%, 1/8W		2007-000944	
R4	R-CHIP, 47 kohm, 5%, 1/8W		2007-000944	
R5	R-CHIP, 2.4 kohm, 5%, 1/8W		2007-000513	
R6	R-CHIP, 2.4 kohm, 5%, 1/8W		2007-000513	
R7	R-WIRE WOUND:1 ohm, 2%, 2W		2005-000125	
R8	R-WIRE WOUND:1 ohm, 2%, 2W		2005-000125	
R9	R-CHIP:620 ohm, 5%, 1/8W		2007-001094	
R10	R-CHIP:150 ohm, 5%, 1/8W		2007-000403	
R11	R-CHIP, 2 kohm, 5%, 1/8W		2007-000674	
J1	CBF-HARNESS:52MM, AWG22		BH39-40305U	
U1	IC-MOTOR DRIVER:SLA7020M		1003-000185	

8-7. SENSOR PBA (JG92-00534A)

No	Description	Part Nunmber	SEC Code	Remark
JP1	CBF-HARNESS:52MM, AWG22		BH39-40305U	
P24	CONNECTOR-HEADER:3WALL, 4P		3711-000470	
P25	CONNECTOR-SOCKET:18P, 2R		3710-000155	
P26	CONNECTOR-HEADER:3WALL, 12P		3711-000411	
P27	CONNECTOR-HEADER:3WALL, 3P		3711-000452	
P28	CONNECTOR-HEADER:3WALL, 3P		3711-000451	
P29	CONNECTOR-HEADER:3WALL, 3P		3711-000453	
PCB	PCB-SENSOR			
R1	R-METAL:200 ohm, 5%, 1/8W		2004-000528	
R2	R-METAL:200 ohm, 5%, 1/8W		2004-000528	
R3	R-METAL:200 ohm, 5%, 1/8W		2004-000528	

8-8. HOOK PBA (JG92-00535A)

No	Description	Part Nunmber	SEC Code	Remark
P49	CBF-LINE CORD:6P		JG39-50500A	
SW1	SWITCH-HOOK:48V,200mA		3409-000115	
PCB	PCB-HOOK			

8-9. CONN PBA (JG92-00536A)

No	Description	Part Nunmber	SEC Code	Remark
P18	CONNECTOR-HEADER:3WALL, 2P		3711-000444	
P19	CONNECTOR-HEADER:3WALL, 2P		3711-000443	
P21	CONNECTOR-HEADER:3WALL, 2P		3711-000442	
P49	CONNECTOR-HEADER:3WALL, 3P		3711-000452	
P53	CONNECTOR-HEADER:3WALL, 7P		3711-000503	
PCB	PCB-CONN			

8-10. OTHERS LIST

No	Description	SEC Code	Remark
	Development motor, MT8-3	3101-000114	
CBF	Wire harness, 22 Pin, MAIN-SCAN (150 mm)	JG39-40076A	
CBF	Wire harness, 11, 22 Pin, MAIN-MOTHER (500 mm)	JG39-40077A	
CBF	SCAN Earth wire, SCAN Earth (170 mm)	JG39-40094A	
CBF	Con, Jack modular, 616MS Ass'y	JF39-40925B	
CBF	Earth wire, LPH Earth wire (105 mm)	JG39-40096A	
CBF	HVPS Wire, CC-WIRE (230 mm, Black)	JG39-40087A	
CBF	Wire harness, 2 Pin, SPEAKER (180 mm)	JG39-40087A	
CBF	Earth wire, ADF Earth wire (130 mm)	JG39-40084A	
CBF	Earth wire, TC Earth wire (60 mm)	JG39-40103A	
CBF	LIU-Line, TAD MJx2 Ass'y, LIU-LINE (406 mm, 5Pin)	JG39-40095A	
CBF	Earth wire, CIS Earth wire (50 mm)	JG39-40095A	
CBF	Handset Curl Cord, H/CORD (300 mm)	JG39-40101A	
CBF	Wire harness, 2 Pin, AC Motor (80 mm, Black)	JG39-40083A	
CBF	HVPS Wire (Angle terminal), BIAS-Wire (l90 mm)	JG39-40086A	
CBF	Wire harness, 2 Pin, Cover SW. (100 mm, Red)	JG39-40082A	
CBF	Terminal harness, 3 Pin, Toner Sensor (230 mm)	JG39-40085A	
CBF	Earth wire, HVPS-Earth (340 mm)	JG39-40089A	
CBF	20 Pin FFC, MAIN-LIU (40 mm)	JG39-40102A	
CBF	Earth wire, FAN Frame earth (180 mm)	JG39-40099A	
CBF	Earth wire, Solenoid Earth (65 mm)	JG39-40098A	
CBF	Wire harness, 3 Pin, OPC-Fuse (280 mm)	JG39-40104A	
CBF	LIU-MJ Ass'y, 6 Pin, LIU-MJ (130 mm)	JG39-40100A	
CBF	Wire harness, 10 Pin, SCAN-CIS (170 mm)	JG39-40080A	
CBF	Wire harness, 7 Pin, MAIN-CONN (160 mm)	JG39-40079A	
CBF	HVPS Wire, TC-Wire (250 mm, RED)	JG39-40088A	
CBF	Wire harness, 12 Pin, SENSOR-LPH (550 mm)	JG39-40078A	
CIS	Contact Image Sensor, DL100-54C	895 390010AA	
D_SCAN	Photo Interrupt, OS-570203-613A	895 610012AB	
FAN	FAN, 2408NL-05W-B30-L03	3103-000157	
FUSE	Fuse, Glass, 125V, 100 mA, 51NM0100L	3601-000107	
HVPS	Power Unit (HVPS)	JG44-10050E	
LAMP	Lamp, Halogen (115V,400W), HQI41D	4713-000129	
LPH	LPH, JE2008-SEA	895 990002AC	
L_CORD	Line Cord	JF39-50094A	
P_CORD	Power Cord	JF39-40692A	
P_EMPT	Photo Interrupt, OS-560203-644	895 610015AA	
P_EXIT	Photo Interrupt, SIU-5009	895 615009AA	
P_UP	Photo Interrupt, OS-560203-636A	895 610015AB	
RX_MTR	Main Motor, 42SHA-37D-4RA	953 280048AB	
SMPS	Power Unit (SMPS)	3101-000155	
SOLEN	Ass'y, Solenoid, DFH-08N2	JG44-10050A	

No	Description	SEC Code	Remark
SPK	Speaker, P-200N-l	939 040001AD	
TEL_RX	Audio Unit, HR-91F	939 020004BH	
TEL_TX	Audio Mic, CMT-64H	939 030502DD	
THERMI	Thermister	897 110537AA	
THERMO	Thermostat, 2450RC	949 160003AA	
TX_MTR	TX Stepping Motor, PM42L-048-SYD7	3101-000150	
T_SEN	Toner Sensor, TS0524ANA-64	JF32-30050A	
VAR	Varister, INRlOD561K	1405-000152	
u_SW	Top cover open micro switch, AH16629	3405-000152	

8-11. Power Supply

NO.	DESCRIPTIONS	TYPE NO	VENDOR	REMARK
Q1	FET-Power, 500 V, 8 A, 0.85 ohm	2SK693	SHINDENGEN	
		IRF840	SEC	
Q2	TR-NPN, 60 V, 300 mA	KSC1008-Y	SEC	
Q3	TR-NPN, 60 V, 300 mA	KSC1008-Y	SEC	
Q4	FET-Switch	IRF9540	SEC	Delete (Short)
IC1	IC-Shunt Reg.	M5237L	MITSUBISHI	Delete (Open)
IC2	IC Regulator, +12V, 0.5A	KA78M12	SEC	
		MC78M12CT	MOTOROLA	
IC3	IC Regulator, -12V, 0.5A	KA79M12	SEC	
		MD79M12CT	MOTOROLA	
IC4	IC-Shunt Reg. 36V, 100mV	TL431CLP	MOTOROLA	
		KA431Z	SEC	
SCR1	Triac	T1212MH	TAG	
		BTA12-600BW	S-T	
PC1	Photo Coupler	PC17T1	KWANG	
		TLP621GB	TOSHIBA	
PC2	Photo Coupler	PC17T1	KWANG	
		TLP621GB	TOSHIBA	
PC3	Photo Coupler	MOC3061T	MOTOROLA	
BD1	Diode-Bridge, 600 V, 4 A	RBV406	SANKEN	
		D3SB60	SHIDENGEN	
D1	Diode-FR, 1 kV, 1 A, 75 ns	UF4007	GI	
		RG1C	SANKEN	
D2	Diode-FR, 75 V, 0.15 A, 4 ns	1N4148	ROHM-KOREA	
			TELEFUNKEN	
D3	Diode-FR, 200 V 10 A, 50 ns	D10LCA20U	SHINDENGEN	
		ESAC92M-02	FUJI	
D4	Diode-FR, 200 V, 1 A, 50 ns	D1NL20	SHINDENGEN	
		EGP10D	GI	
D5	Diode-FR, 200 V, 1 A, 50 ns	DINL20	SHINDENGEN	
		EGP10D	GI	
D6	Diode-Schottky, 40 V, 10 A	D10SC4M	SHlNDENGEN	
		ESAC82M-004	FUJI	
D7	Diode-FR, 75 V, 0.15 A, 4 ns	1N4148	ROHM-KOREA	
			TELEFUNKEN	
D8	Diode-FR, 75 V, 0.15 A, 4 ns	1N4148	ROHM-KOREA	
			TELEFUNKEN	
D9	Diode-FR, 75 V, 0.15 A, 4 ns	1N4148	ROHM-KOREA	
			TELEFUNKEN	
D10	Diode-FR, 75 V, 0.15 A, 4 ns	1N4148	ROHM-KOREA	
			TELEFUNKEN	

NO.	DESCRIPTIONS	TYPE NO	VENDOR	REMARK
ZD1	Diode-Zener, 0.5 W, 20 V, 5 %	MTZ20C	ROHM-KOREA	
		1N5250B	MOTOROLA	
ZD2	Diode-Zener, 0.5 W, 4.7 V, 5 %	MTZ4.7C	ROHM KOREA	
		1N5230B	MOTOROLA	
ZD3	Diode-Zener, 0.5 W, 5.6 V, 5 %	MTZ5.6C	ROHM KOREA	
		1N5232B	MOTOROLA	
ZD4	Diode-Zener, 0.5 W, 33 V, 5 %	MTZ33C	ROHM KOREA	
		1N5257B	MOTOROLA	
C1	CAP-X, 250V, 104M, UL	KNB1530-104K	ISKRA	
		2222-335-10104	PHILIPS-KOREA	
C2	CAP-X, 250V, 104M, UL	KNB1530-104K	ISKRA	
		2222-335-10104	PHILIPS-KOREA	
C3	CAP-X, 250V, 104M, UL	KNB1530-104K	ISKRA	
		2222-335-10104	PHILIPS-KOREA	
C4	CAP-Y, 400V, 222M, UL	HCYE2B222MAA	SAMSUNG	
C5	CAP-Y, 400V, 222M, UL	HCYE2B222MAA	SAMSUNG	
C6	CAP-Y, 400V, 222M. UL	HCYE2B222MAA	SAMSUNG	
C7	CAP-ELECTRIC, 22X30rmn 85°C	SMH200V470µF	SAMYOUNG	
	200V 470µF	SMS200V470µF	SAMSUNG	
C8	CAP-CERAMIC, 1KV, 221K	HCYB3A221KDB	SAMSUNG	
C9	CAP-M.F 630V, 333K	MMD630V333K	SHINSHIN	
C10	CAP-M.F 400V, 104K	MMD400V104K	SHINSHIN	
C11	CAP-CERAMIC, lKV, 471K	HCYB3A471KDB	SAMSUNG	
C12	CAP-MYLAR 50 / 100V 333J	CQ921MF2A333J	SEOJIN	
C13	CAP-MYLAR 50 / 100V 104J	CQ921MF2A104J	SEOJIN	
C14	CAP-MYLAR 50 / 100V 223J	CQ921MF2A223J	SEOJIN	
C15	CAP-CERAMIC 1KV 102K	HCYB3A102KDB	SAMSUNG	
C16	CAP-ELECTRIC 12.5X31.5mm	SXE35V1000µF	SAMYOUNG	
	105°C 35V 1000µF	STL35V1000µF	SAMSUNG	
C18	CAP-ELECTRIC 10X20 mm	SXE35V330µF	SAMYOUNG	
	105°C 35V 330µF	STLIV331	SAMSUNG	
Cl9	CAP-CERAMIC, 50V, 104Z	CCYVlH104ZB	SAMSUNG	
C20	CAP-CERAMIC, lKV, 471K	HCYB3A471KDB	SAMSUNG	
C21	CAP-CERAMIC, lKV, 471K	HCYB3A471KDB	SAMSUNG	
C22	CAP-ELECTRIC 10X20 mm 105°C	SXE35V330µF	SAMYOUNG	
	35V 330µF	STLIV331	SAMSUNG	
C23	CAP-ELECTRIC 10X20 mm 105°C	SXE35V330µF	SAMYOUNG	
	35V 330µF	STLIV331	SAMSUNG	
C24	CAP-ELECTRIC 6.3X11 mm 85°C	SMS25V 47µF(M)	SAMYOUNG	
	25V 47µF	SSX25V47µF	SAMSUNG	
C25	CAP-ELECTRIC 6.3X11 mm 85°C	SMS25V 47µF(M)	SAMYOUNG	
	25V 47µF	SSX25V47µF	SAMSUNG	
C26	CAP-CERAMIC 1KV 102K	HCYB3A102KDB	SAMSUNG	

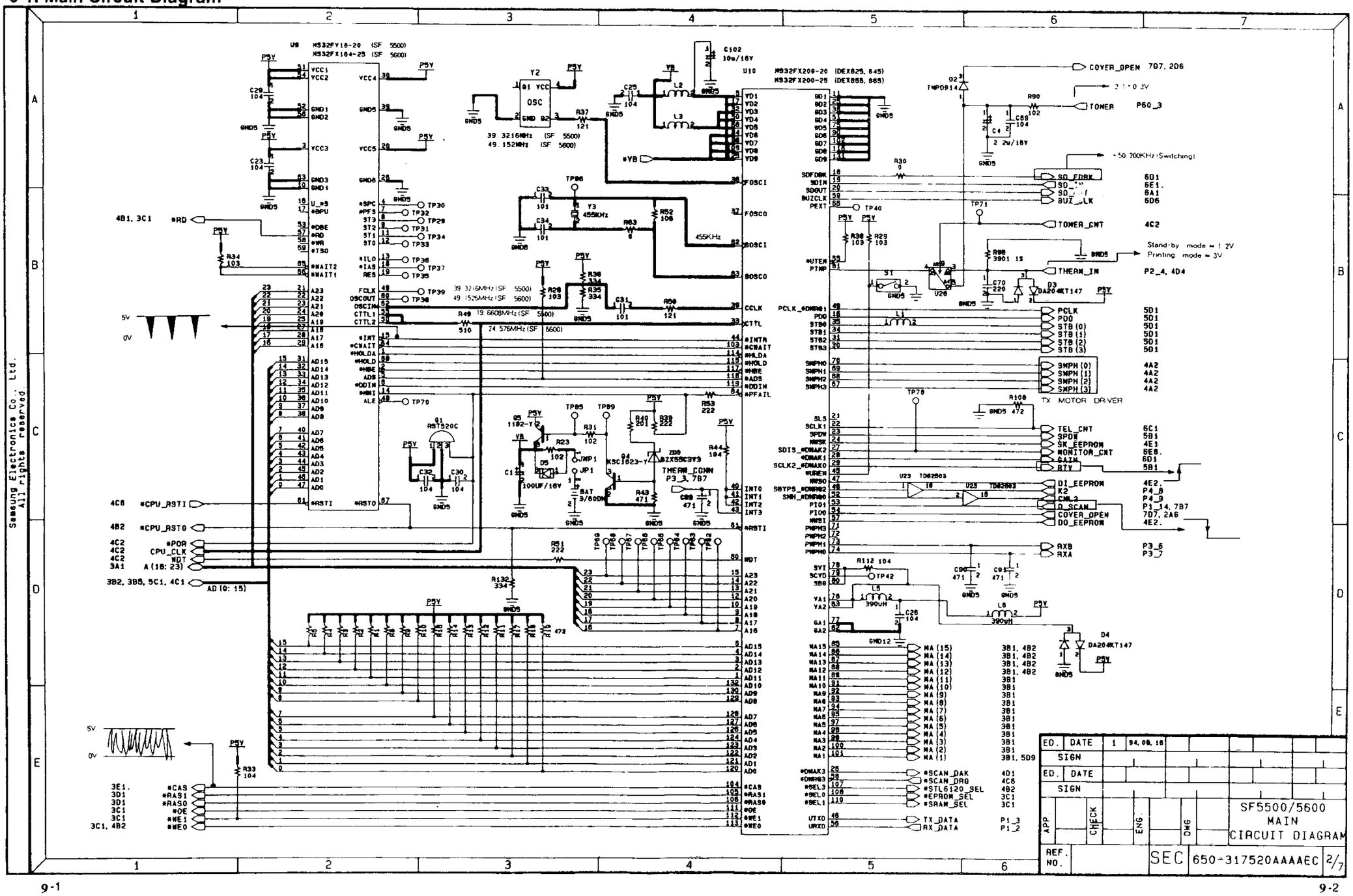
NO.	DESCRIPTIONS	TYPE NO	VENDOR	REMARK
C27	CAP-ELECTRIC 12.5X25 mm 105°C	SXE10V2200µF	SAMYOUNG	
	10V 2200µF	STL10V2200µF	SAMSUNG	
C29	CAP-ELECTRIC 5.0X11 mm, 85°C	SMS50V1µF	SAMYOUNG	
	50V 1µF	SSX50V1µF	SAMSUNG	
C30	CAP-ELECTRIC 10X25mm, 105°C	SXE10V1200µF	SAMYOUNG	
	10V 1200µF	STL10V1200µF	SAMSUNG	
Rl	RESISTOR-CARBON	1/4W 560kohm 5%	PHILIPS-KOREA	
			HANJOO	
R2	RESISTOR-CARBON	1/4W 56 kohm 5%	PHILIPS-KOREA	
			HANJOO	
R3	RESISTOR-CARBON	1/4W 56 kohm 5%	PHILIPS-KOREA	
			HANJOO	
R4	R-METAL OXIDE MINI	2W 47 kohm 5%	PHILIPS-KOREA	
			YUMI	
R5	RESISTOR-FUSIBLE	1/4W 120 ohm 5%	PHILIPS-KOREA	
			YUMI	
R6	RESISTOR-CARBON	1/4W 100 ohm 5%	PHILIPS-KOREA	
			HANJOO	
R7	RESISTOR-FUSIBLE	1/4W 180 ohm 5%	PHILIPS-KOREA	
			HANJOO	
R8	R-WIRE WOUND	1W 0.1 ohm 5%	HANMI	
R9	RESISTOR-CARBON	1/4W, 27 kohm 5%	PHILIPS-KOREA	
			HANJOO	
R10	RESISTOR-CARBON	1/4W 100 ohm 5%	PHILIPS-KOREA	
			HANJOO	
R11	R-METAL OXIDE	1W 220 ohm 5%	PHILIPS-KOREA	
			YUMI	
R12	RESISTOR-CARBON	1/4W 680 ohm 5%	PHILIPS-KOREA	
			HANJOO	
R13	RESISTOR-CARBON	1/4W 620 ohm 1%	PHLIPS-KOREA	Delete (Open)
			HANJOO	
R14	RESISTOR-CARBON	1/4W 620 ohm 1%	PHILIPS-KOREA	Delete (Open)
			HANJOO	
R15	RESISTOR-CARBON	1/4W 39 kohm 1%	PHLIPS-KOREA	Delete (Open)
			HANJOO	
R16	RESISTOR-CARBON	1/4W 2.2 kohm 1%	PHILIPS-KOREA	Delete (Open)
			HANJOO	
R17	R-METAL OXIDE MINI	3W 680 ohm 5%	PH]LIPS-KOREA	
			YUMI	
R18	R-METAL OXIDE MINI	3W 680 ohm 5%	PHILIPS-KOREA	
			YUMI	
R19	RESISTOR-CARBON	1/4W 100 ohm 5%	PHILIPS-KOREA	
			HANJOO	

NO.	DESCRIPTIONS	TYPE NO	VENDOR	REMARK
R20	RESISTOR-CARBON	1/4W 2 kohm 5%	PHILIPS-KOREA HANJOO	
R21	R-METAL OXIDE MINI	3W 50 ohm 5%	PHLIPS-KOREA YUMI	
R22	RESISTOR-CARBON	1/4W 4.7 kohm 5%	PHLIPS-KOREA HANJOO	
R23	RESISTOR-CARBON	1/4W 100 ohm 5%	PHILIPS-KOREA HANJOO	
R24	RESISTOR-CARBON	1/4W 100 ohm 5%	PHILIPS-KOREA HANJOO	
R25	RESISTOR-CARBON	1/4W 1.5 kohm 5%	PHILIPS-KOREA HANJOO	
R26	REISISTOR-CARBON	1/4W 3.9kohm 5%	PHILIPS-KOREA HANJOO	
R27	R-METAL OXIDE MINI	1W 1.2 kohm 5%	PHILIPS-KOREA YUMI	
VR1	RESISTOR-VR 0.5W lK TOP ADJ	EVNDJAA03B1K CT6P-102	MATSUSHITA OPAL	
Fl	FUSE GLASS 125V8A(SB),5X20	51S080L 125V 8A	TRIAD	
F2	FUSE GLASS 125V3A 5X20	51S030L 125V 3A	TRIAD	
CON1	CONNECTOR, 20 PIN	52330-2017	MOLEX	
CON2	CONNECTOR, 3 PIN	5145-03AH	MOLEX	
CON3	CONNECTOR, 2 PIN	5096-02C	MOLEX	
LAMP	PC BOARD CRIMP	08-70-0166	MOLEX	Delete
RLl	RELAY 24VDC 5A	VG24TM	TAKAMISAWA	
WIRE	LEAD WIRE	UL1007#20 RED OR BROWN	HANCHANG	Delete
WIRE	LEAD WIRE	UL1007#20 BLK OR BLUE	HANCHANG	Delete
Ll	CHOKE COIL, 0.8X68T IRON(T080-1603)	210µH 15%	SOOJUNG	
L2	CHOKE COIL 01.0X7.5T FERRITE(DR 8Xl l)	2µF 10A	SOOJUNG	
B1	BEAD 3.5X5	BI3857	SAMSUNG BOAM	
LFl	AC LINE FILTER	12-101-116	SEOUL CLOVER	
LF2	AC LINE FILTER	UU1620(SPL4)	SEOUL CLOVER	
Tl	TRANS POWER EER 28L, GAP1.0	RPT-1B PL5 NC-2H/2500B2	SEOUL CLOVER	
TNRl	SURGE ABSORBER	D6221ZOV141RA07	MAIDA	
TNR2	SURGE ABSORBER	D69ZOV102RA220	MAIDA	

NO.	DESCRIPTIONS	TYPE NO	VENDOR	REMARK
NTl	THERMISTOR, 8 ohm	8D-13	ISUZUKA	
		KL13L008	SANGSHIN	
TSl	THERMAL SWITCH	T90AR3U1 / 2	NATIONAL	Delete (Short)
PCB		FRl 213X87	BAIKSAN	
		DSl 107M / A	CHUNGJOO	
TF1	THERMAL FUSE	D090-002	ELMWOOD	
		SF91U-1	NEC	

9. Circuit Diagram

9-1. Main Circuit Diagram



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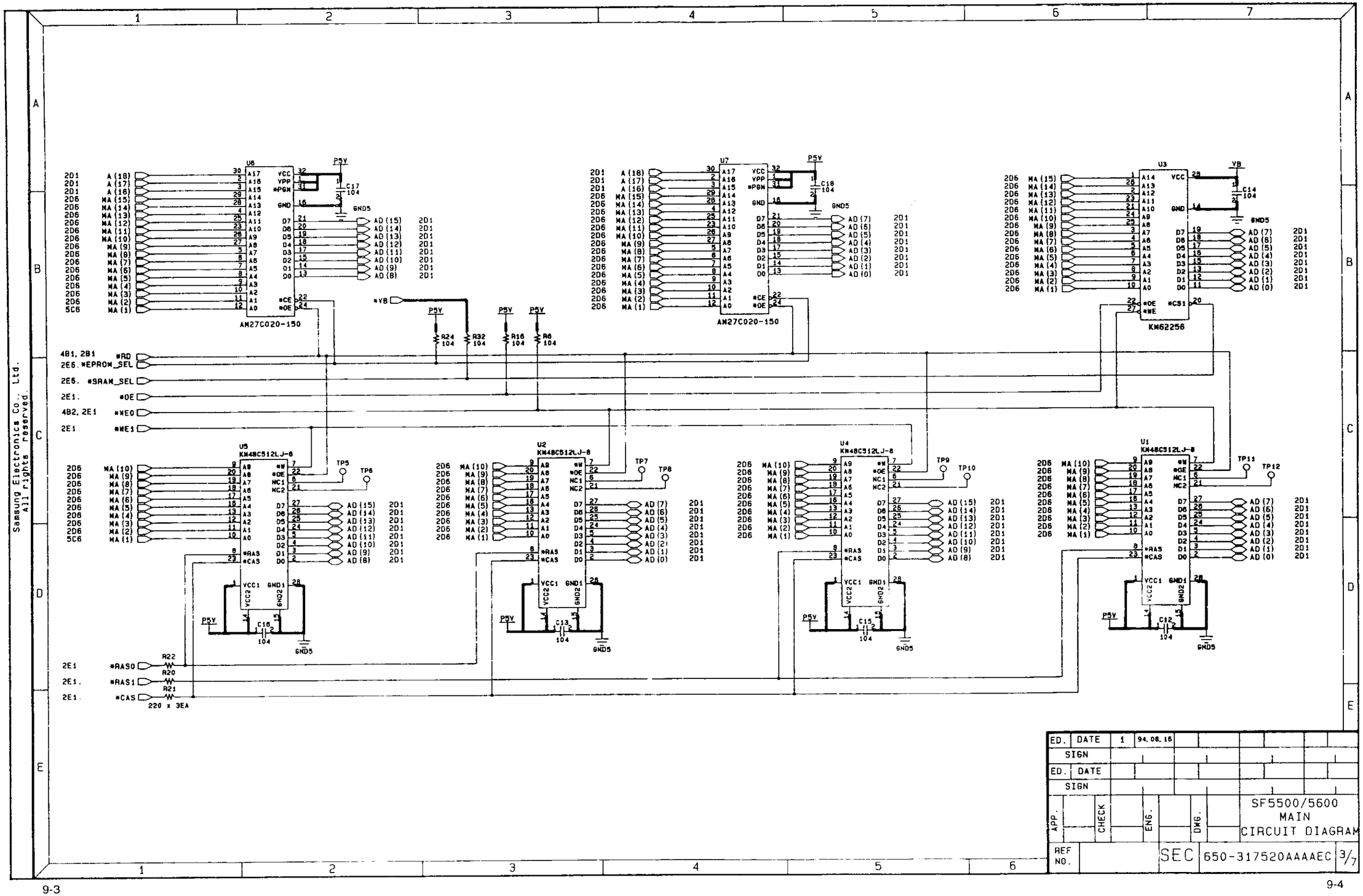
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U5
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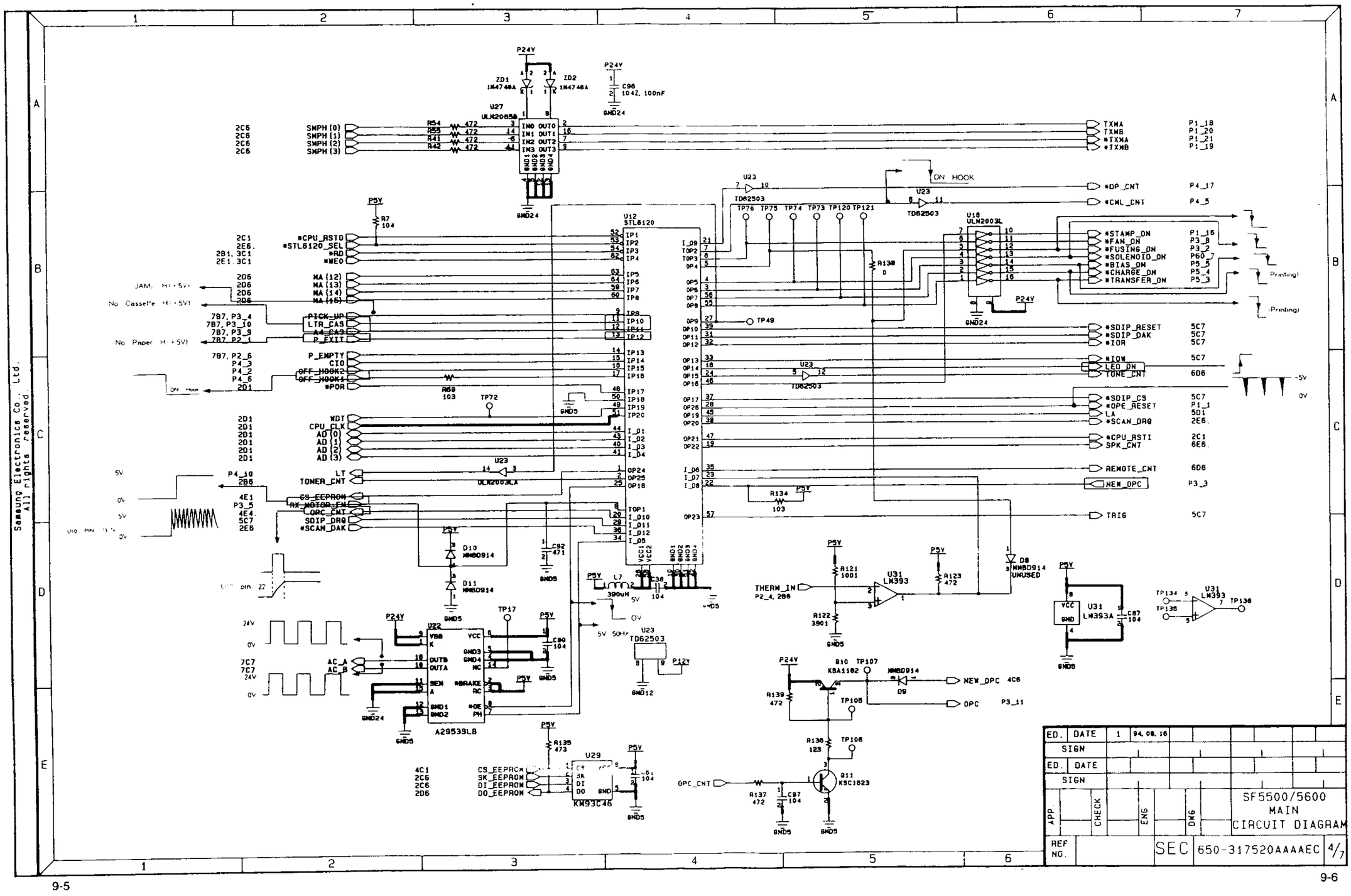
GND5
*RD
*EPROM_SEL
*SRAM_SEL
*OE
*WE0
*WE1
*RAS0
*RAS1
*CAS
220 x 3EA
ED. DATE 1 94.08.16
SIGN
ED. DATE
SIGN
APP.
CHECK
ENG.
DWG.
SF5500/5600
MAIN
CIRCUIT DIAGRAM
REF NO.
SEC
650-317520AAAAEC
3/7

9-3

9-4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P24V
P5V
GND24
GND5
GND12
ZD1 1N4746A
ZD2 1N4746A
C96 104Z, 100nF
U27 ULN2065B
SMPH(0)
SMPH(1)
SMPH(2)
SMPH(3)
TXMA
TXMB
*TXMA
*TXMB
P1_18
P1_20
P1_21
P1_19
U23 TD62503
ON HOOK
*DP_CNT
*CML_CNT
P4_17
P4_5
U12 STL8120
*CPU_RSTO
*STL8120_SEL
*RD
*WEO
MA(12)
MA(13)
MA(14)
MA(15)
JAM
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No Paper
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P_EMPTY
CIO
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OFF_HOOK1
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CPU_CLK
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AD(1)
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SK_EEPROM
DI_EEPROM
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REMOTE_CNT
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THERM_IN
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OPC
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Q11 KSC1623
MMBD914
UNUSED
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AC_B
*BRAKE
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TP72
TP49
TP105
TP106
TP107
TP134
TP135
TP136
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R69 103
R134 103
R135 473
R136 123
R137 472
R138 0
R139 472
R121 1001
R122 3901
R123 472
C92 471
C90 104
C87 104
C38 104
L7 390uH
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SF5500/5600
MAIN
CIRCUIT DIAGRAM
REF NO.
SEC 650-317520AAAAEC 4/7

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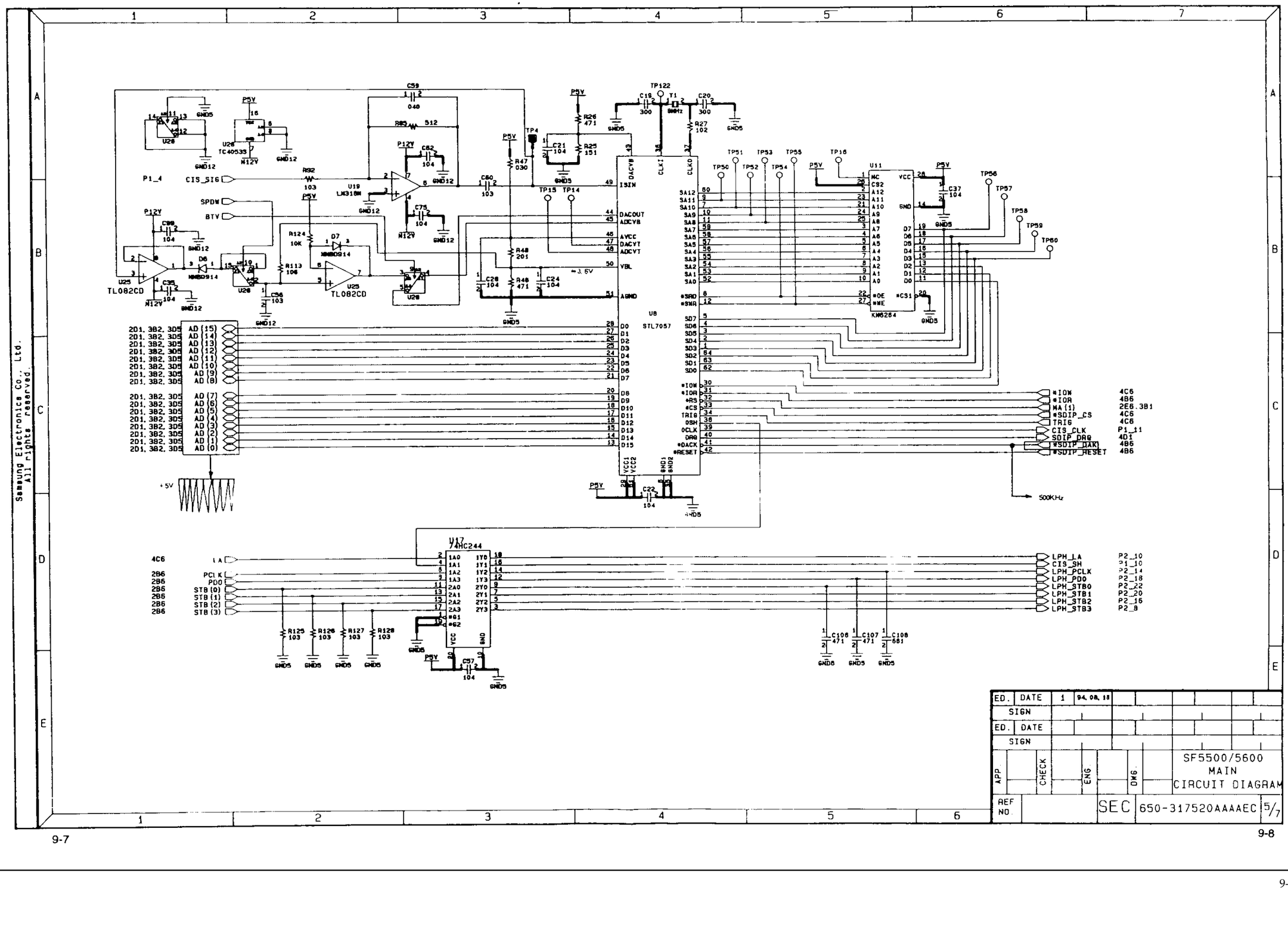
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STL7057
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KM6264
U17
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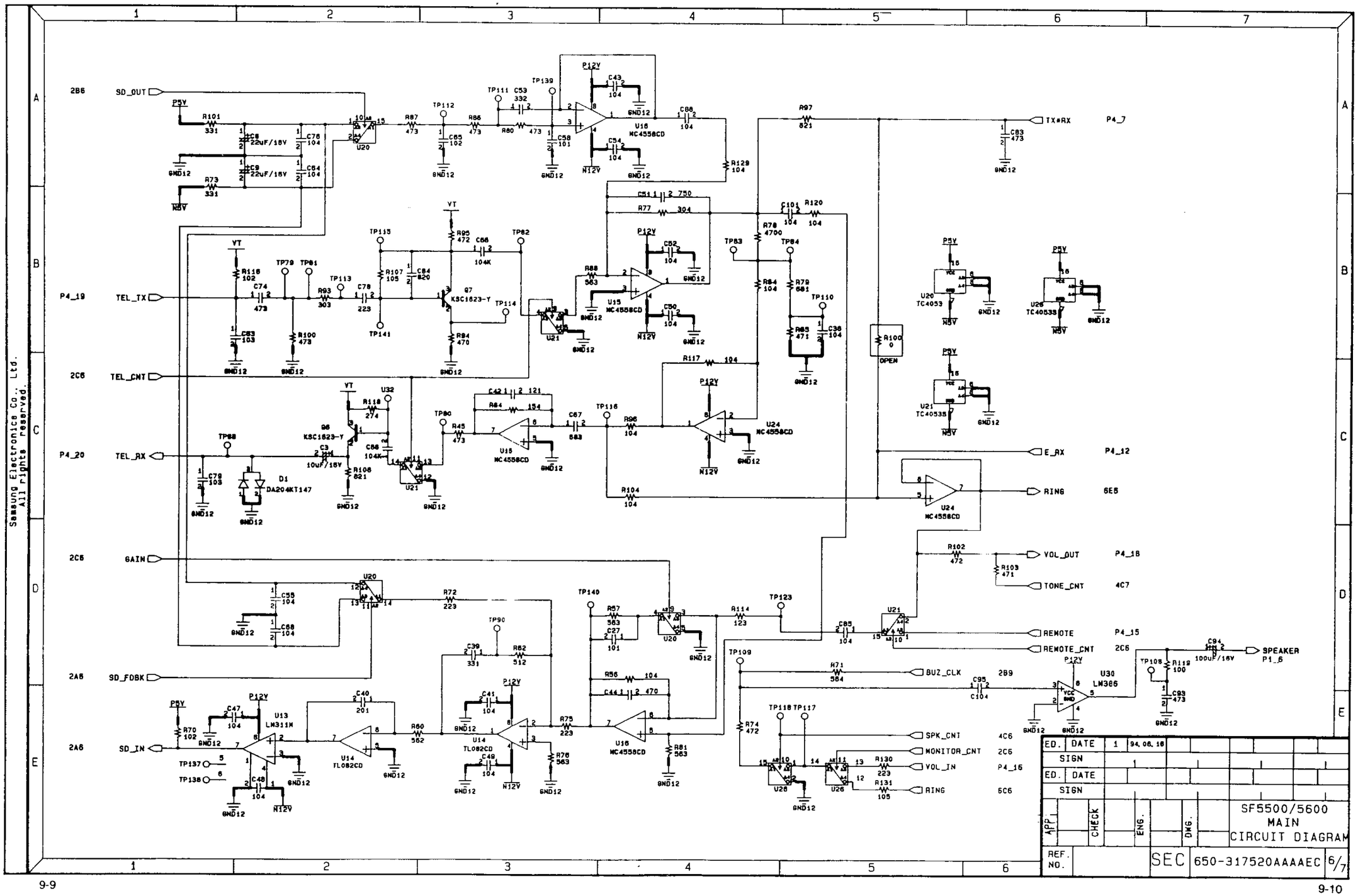
TL082CD
LM318M
TC40535
P5V
P12V
N12V
GND5
GND12
500KHz
SF5500/5600
MAIN
CIRCUIT DIAGRAM
SEC
650-317520AAAAEC
9-7
9-8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TEL_CNT
TEL_RX
GAIN
SD_FDBK
SD_IN
TX*RX
E_RX
RING
VOL_OUT
TONE_CNT
REMOTE
REMOTE_CNT
BUZ_CLK
SPK_CNT
MONITOR_CNT
VOL_IN
SPEAKER
OPEN
U16 MC4558CD
U15 MC4558CD
U24 MC4558CD
U20 TC4053
U26 TC40538
U21 TC40538
U13 LM311M
U14 TL082CD
U30 LM386
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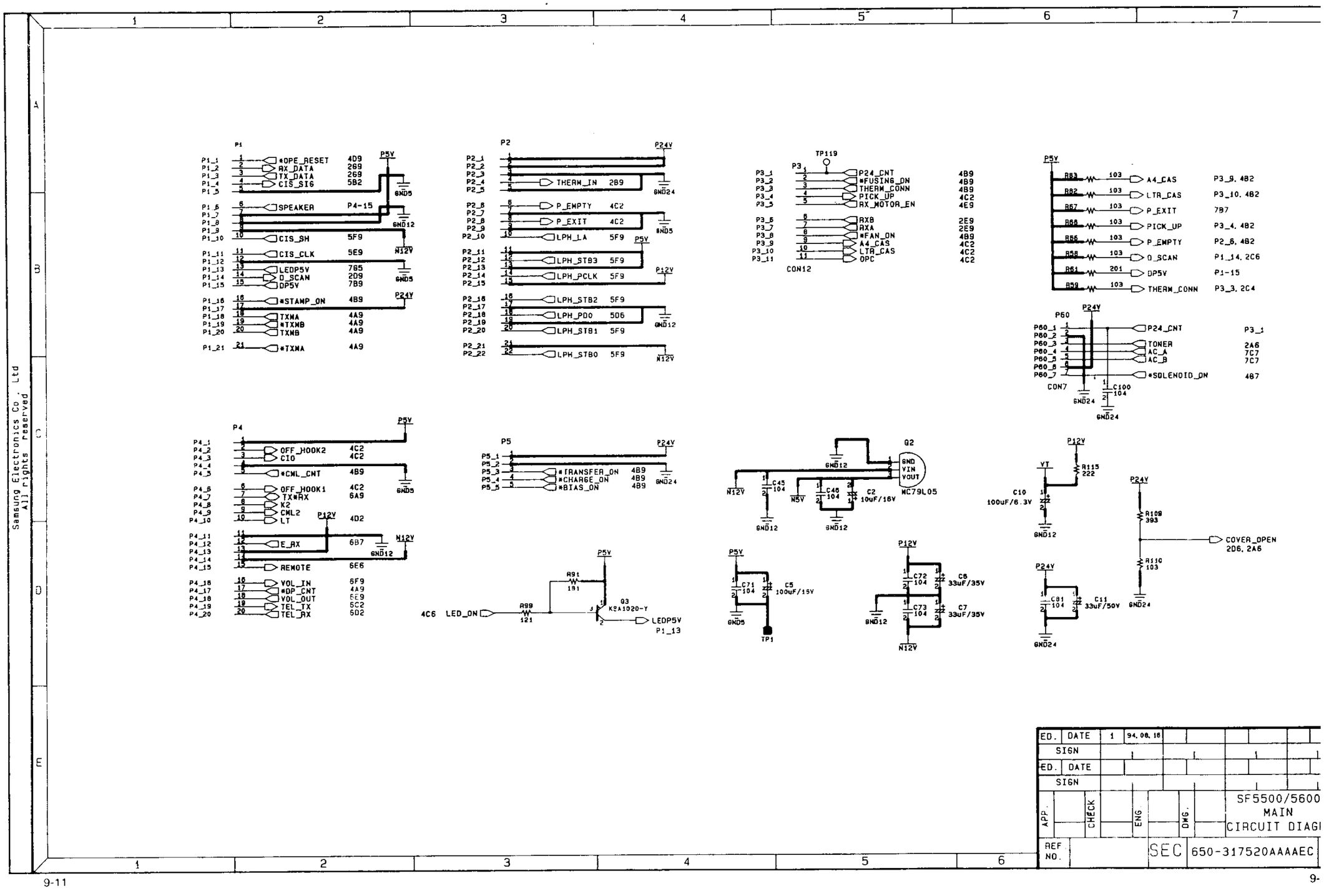
MAIN
CIRCUIT DIAGRAM
SEC 650-317520AAAAEC 6/7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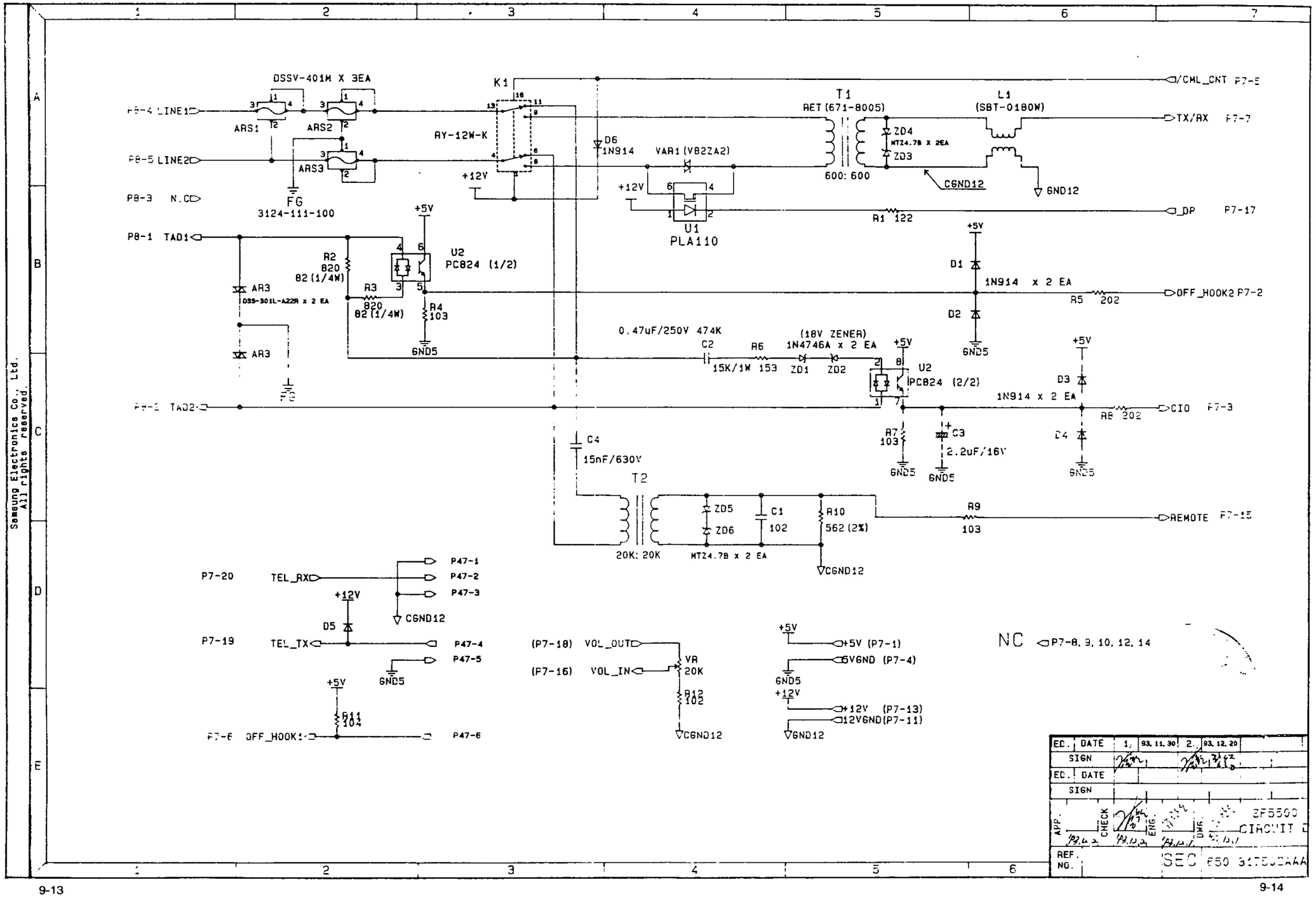
P5V
GND5
P1_5
P1_6 SPEAKER P4-15
P1_7
P1_8
GND12
P1_9
P1_10 CIS_SH 5F9
N12V
P1_11 CIS_CLK 5E9
P1_12
P1_13 LEDP5V 7B5
P1_14 D_SCAN 2D9
P1_15 DP5V 7B9
GND5
P1_16 *STAMP_ON 4B9
P24V
P1_17
P1_18 TXMA 4A9
P1_19 *TXMB 4A9
P1_20 TXMB 4A9
P1_21 *TXMA 4A9
P2
P24V
P2_1
P2_2
P2_3
P2_4 THERM_IN 2B9
P2_5
GND24
P2_6 P_EMPTY 4C2
P2_7
P2_8 P_EXIT 4C2
P2_9
GND5
P2_10 LPH_LA 5F9
P5V
P2_11
P2_12 LPH_STB3 5F9
P2_13
P2_14 LPH_PCLK 5F9
P12V
P2_15
P2_16 LPH_STB2 5F9
P2_17
P2_18 LPH_PDO 5D6
P2_19
GND12
P2_20 LPH_STB1 5F9
P2_21
P2_22 LPH_STB0 5F9
N12V
TP119
P3
P3_1 P24_CNT 4B9
P3_2 *FUSING_ON 4B9
P3_3 THERM_CONN 4B9
P3_4 PICK_UP 4C2
P3_5 RX_MOTOR_EN 4E9
P3_6 RXB 2E9
P3_7 RXA 2E9
P3_8 *FAN_ON 4B9
P3_9 A4_CAS 4C2
P3_10 LTR_CAS 4C2
P3_11 OPC 4C2
CON12
P5V
R83 103 A4_CAS P3_9, 4B2
R82 103 LTR_CAS P3_10, 4B2
R67 103 P_EXIT 7B7
R68 103 PICK_UP P3_4, 4B2
R56 103 P_EMPTY P2_6, 4B2
R58 103 D_SCAN P1_14, 2C6
R61 201 DP5V P1-15
R59 103 THERM_CONN P3_3, 2C4
P24V
P60
P60_1
P60_2
P60_3 P24_CNT P3_1
P60_4 TONER 2A6
P60_5 AC_A 7C7
P60_6 AC_B 7C7
P60_7 *SOLENOID_DN 4B7
CON7
C100 104
GND24
GND24
P4
P5V
P4_1
P4_2 OFF_HOOK2 4C2
P4_3 CIO 4C2
P4_4
P4_5 *CML_CNT 4B9
GND5
P4_6 OFF_HOOK1 4C2
P4_7 TX*RX 6A9
P4_8 K2
P4_9 CML2
P4_10 LT
P12V 4D2
P4_11
P4_12 E_RX 6B7
P4_13
N12V
P4_14
GND12
P4_15 REMOTE 6E6
P4_16 VOL_IN 6F9
P4_17 *DP_CNT 4A9
P4_18 VOL_OUT 6E9
P4_19 TEL_TX 6C2
P4_20 TEL_RX 6D2
P5
P24V
P5_1
P5_2
P5_3 *TRANSFER_ON 4B9
P5_4 *CHARGE_ON 4B9
P5_5 *BIAS_ON 4B9
GND24
P5V
R91 1B1
4C6 LED_ON
R99 121
Q3 KSA1020-Y
LEDP5V
P1_13
Q2
GND12
GND
VIN
VOUT
MC79L05
N12V
C45 104
N5V
C46 104
C2 10uF/16V
GND12
GND12
P5V
C71 104
C5 100uF/15V
GND5
TP1
P12V
C72 104
C6 33uF/35V
C73 104
C7 33uF/35V
GND12
N12V
P12V
Y1
R115 222
C10 100uF/6.3V
GND12
P24V
R109 393
COVER_OPEN 2D6, 2A6
R110 103
C81 104
C11 33uF/50V
GND24
ED. DATE 1 94.08.18
SIGN
ED. DATE
SIGN
APP. CHECK ENG DWG.
SF5500/5600
MAIN
CIRCUIT DIAGI
REF NO.
SEC 650-317520AAAAEC
1 2 3 4 5 6
A B C D E
9-11
9-


DSSV-401M X 3EA
K1
RY-12W-K
ARS1
ARS2
ARS3
P8-4 LINE1
P8-5 LINE2
P8-3 N.C
FG
3124-111-100
D6
1N914
VAR1 (V82ZA2)
+12V
U1
PLA110
T1
RET (671-8005)
600: 600
L1
(SBT-0180W)
ZD4
MTZ4.7B X 2EA
ZD3
CGND12
6GND12
/CML_CNT P7-5
TX/RX P7-7
DP P7-17
R1 122
P8-1 TAD1
P8-2 TAD2
R2
820
82 (1/4W)
R3
820
82 (1/4W)
R4
103
U2
PC824 (1/2)
AR3
DSS-301L-A22R x 2 EA
6GND5
+5V
D1
1N914 x 2 EA
R5 202
OFF_HOOK2 P7-2
D2
0.47uF/250V 474K
C2
15K/1W 153
R6
(18V ZENER)
1N4746A x 2 EA
ZD1
ZD2
U2
PC824 (2/2)
D3
1N914 x 2 EA
R8 202
CID P7-3
R7
103
C3
2.2uF/16V
D4
C4
15nF/630V
T2
20K: 20K
ZD5
ZD6
MTZ4.7B x 2 EA
C1
102
R10
562 (2%)
R9
103
REMOTE P7-15
P7-20 TEL_RX
P7-19 TEL_TX
P7-6 OFF_HOOK1
D5
R11
104
P47-1
P47-2
P47-3
P47-4
P47-5
P47-6
(P7-18) VOL_OUT
(P7-16) VOL_IN
VR
20K
R12
102
+5V (P7-1)
5VGND (P7-4)
+12V (P7-13)
12VGND (P7-11)
NC P7-8, 9, 10, 12, 14
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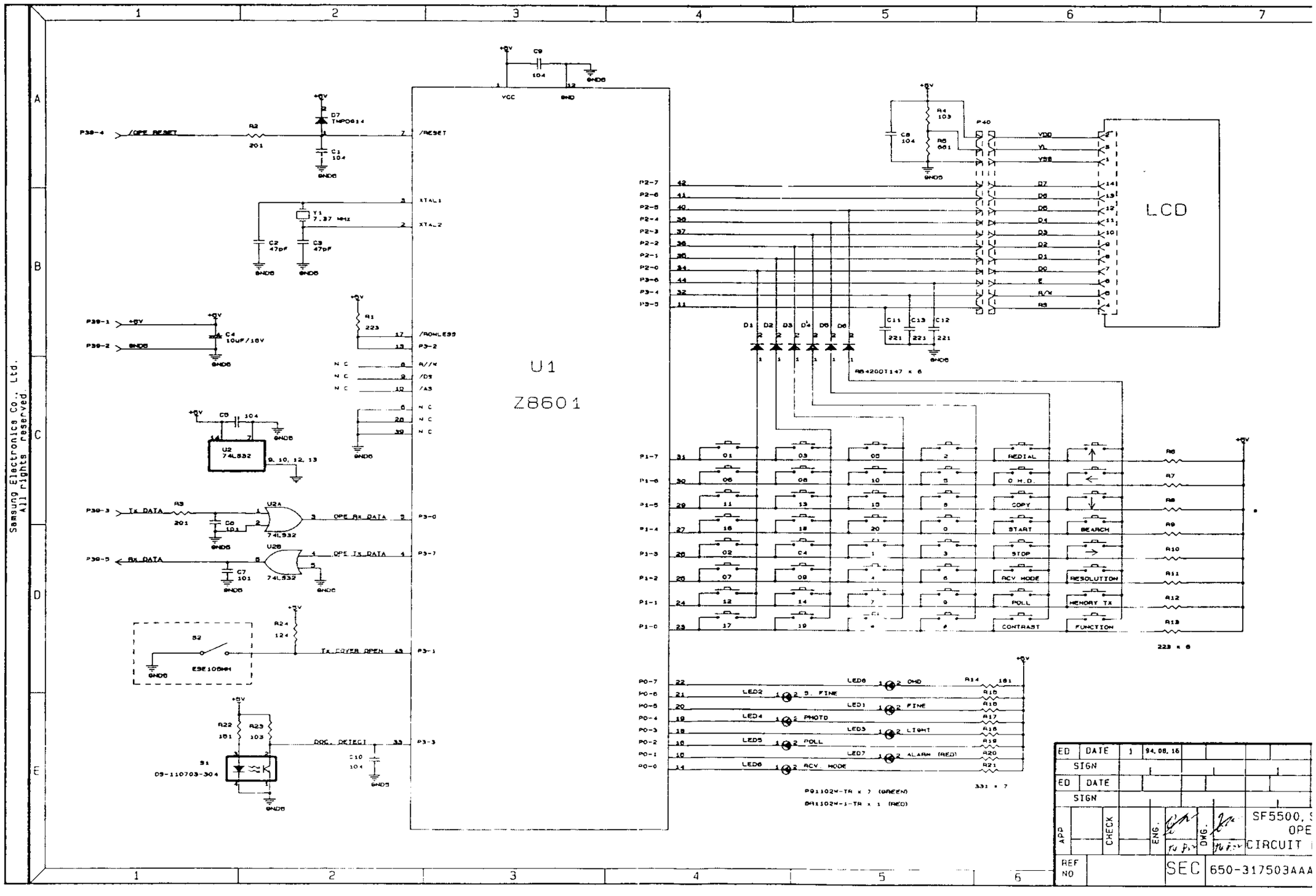
EC. DATE 1. 93.11.30 2. 93.12.20
SIGN
APP. CHECK ENG. DWN
SF5500
CIRCUIT
REF. NO.
SEC 650 3175JCAAA
9-13
9-14


U1
Z8601
LCD
/RESET
XTAL1
XTAL2
/ROWLESS
P3-2
R/W
/DS
/AS
Tx_DATA
Rx_DATA
OPE_Rx_DATA
OPE_Tx_DATA
Tx_COVER_OPEN
DOC_DETECT
REDIAL
O.H.D.
COPY
START
SEARCH
STOP
RCV_MODE
RESOLUTION
POLL
MEMORY TX
CONTRAST
FUNCTION
S. FINE
FINE
PHOTO
LIGHT
ALARM (RED)
RCV_MODE
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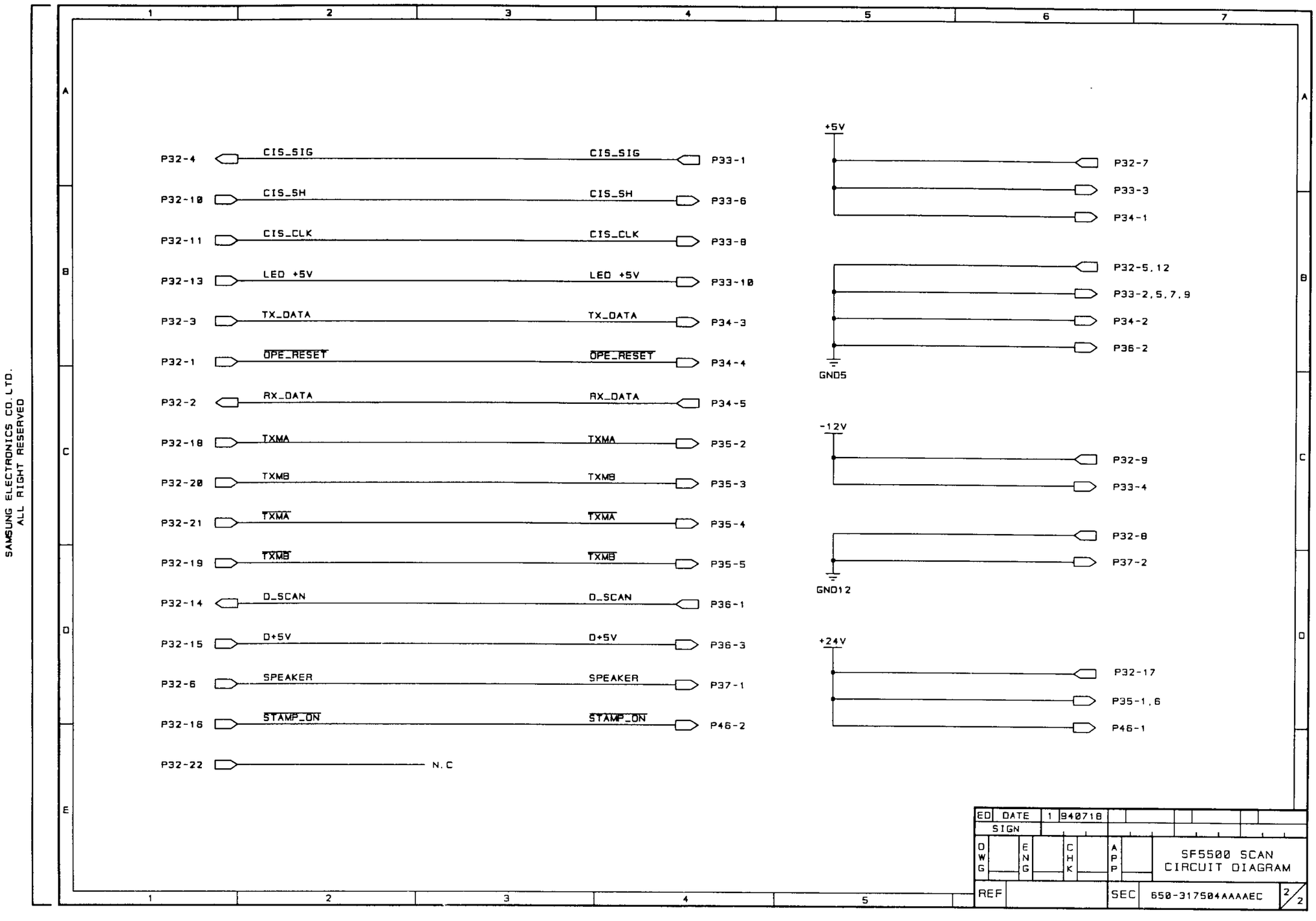
SF5500, S
OPE
CIRCUIT
650-317503AAA
94.08.16


P32-4 CIS_SIG CIS_SIG P33-1
P32-10 CIS_SH CIS_SH P33-6
P32-11 CIS_CLK CIS_CLK P33-8
P32-13 LED +5V LED +5V P33-10
P32-3 TX_DATA TX_DATA P34-3
P32-1 OPE_RESET OPE_RESET P34-4
P32-2 RX_DATA RX_DATA P34-5
P32-18 TXMA TXMA P35-2
P32-20 TXMB TXMB P35-3
P32-21 TXMA TXMA P35-4
P32-19 TXMB TXMB P35-5
P32-14 D_SCAN D_SCAN P36-1
P32-15 D+5V D+5V P36-3
P32-6 SPEAKER SPEAKER P37-1
P32-16 STAMP_ON STAMP_ON P46-2
P32-22 N.C
+5V
P32-7
P33-3
P34-1
P32-5,12
P33-2,5,7,9
P34-2
P36-2
GND5
-12V
P32-9
P33-4
P32-8
P37-2
GND12
+24V
P32-17
P35-1,6
P46-1
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SIGN
DWG ENG CHK APP
SF5500 SCAN CIRCUIT DIAGRAM
REF
SEC 650-317504AAAAEC 2/2

9 - 17

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P50-1	AC(HOT)	AC(HOT)	P45-1
P50-2	AC(NEUTRAL)	AC(NEUTRAL)	P45-2
P11-1	+24V_CNT	+24V_CNT	P14-19
P11-2	FUSING_ON	FUSING_ON	P14-20
P11-3	THERM_CONN	THERM_CONN	P13-8
P11-4	PICK_UP	PICK_UP	P13-7
P11-5	RX_MOTER_EN	RX_MOTER_EN	P15-7
P11-6	RX_B	RX_B	P15-8
P11-7	RX_A	RX_A	P15-9
P11-8	FAN_ON	FAN_ON	P15-10
P12-4	THERM_IN	THERM_IN	P13-9
P12-6	P_EMPTY	P_EMPTY	P13-10
P12-8	P_EXIT	P_EXIT	P13-11
P12-10	LPH_LA	LPH_LA	P13-12
P12-12	LPH_STB3	LPH_STB3	P13-13
P12-14	LPH_PCLK	LPH_PCLK	P13-14
P12-16	LPH_STB2	LPH_STB2	P13-15
P12-18	LPH_PDO	LPH_PDO	P13-16
P12-20	LPH_STB1	LPH_STB1	P13-17
P12-22	LPH_STB0	LPH_STB0	P13-18
P11-11	OPC	OPC	P15-11
		N.C	P15-12

+5V
- P14-5,6,7,8
- P12-11,13
- P13-1,2,3
- P15-1
- P14-9,10,11,12
- P12-7,9
- P13-4,5,6
- P15-2

GND5

+12V
- P14-4
- P12-15
- P14-2,3
- P12-17,19

GND12

-12V
- P14-1
- P12-21

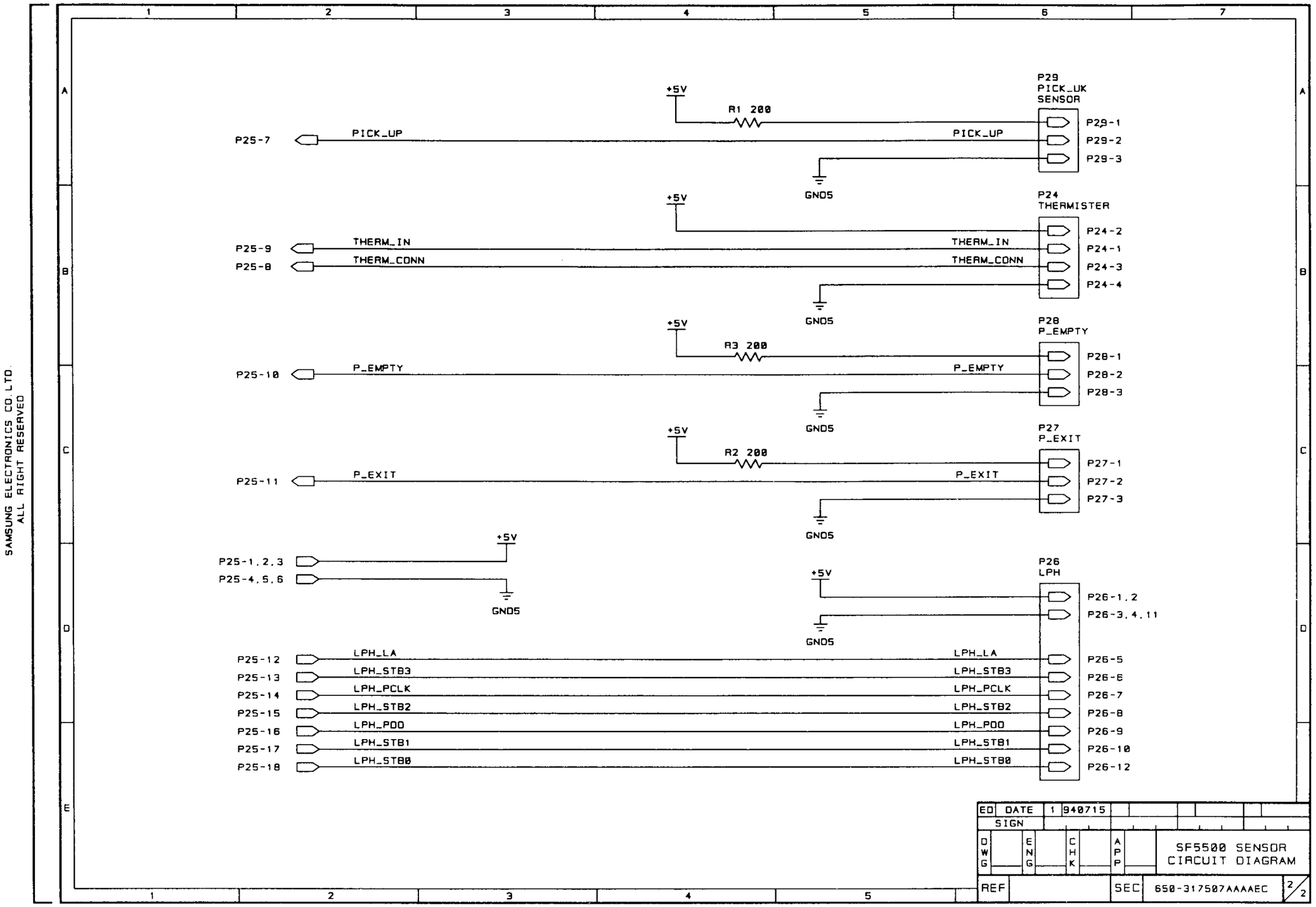
+24V
- P14-16,17,18
- P12-1,2
- P12-5,6
- P14-13,14,15
- P12-1,2
- P15-3,4

GND24

P11-9 A4_CAS → R1 201 → S1 OS-3318 (pins 3, 1, 4, 2) → GND5

P11-10 LTR_CAS → R2 201 → S2 OS-3318 (pins 3, 1, 4, 2) → GND5

ED	DATE	1	940713				
SIGN							
DWG		ENG		CHK		APP	SF5500 MOTHER CIRCUIT DIAGRAM
REF						SEC	650-317505AAAAEC 2/2



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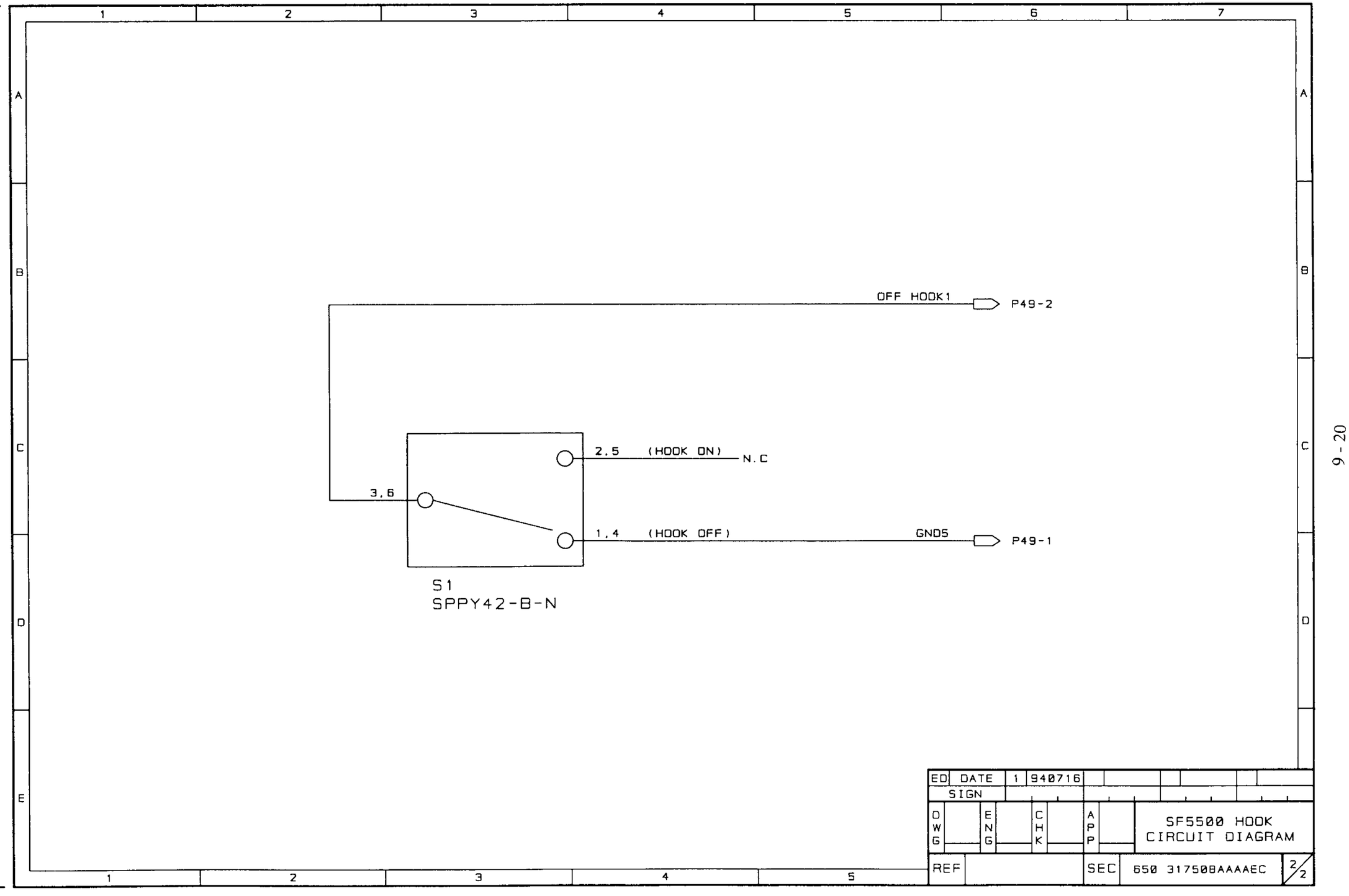

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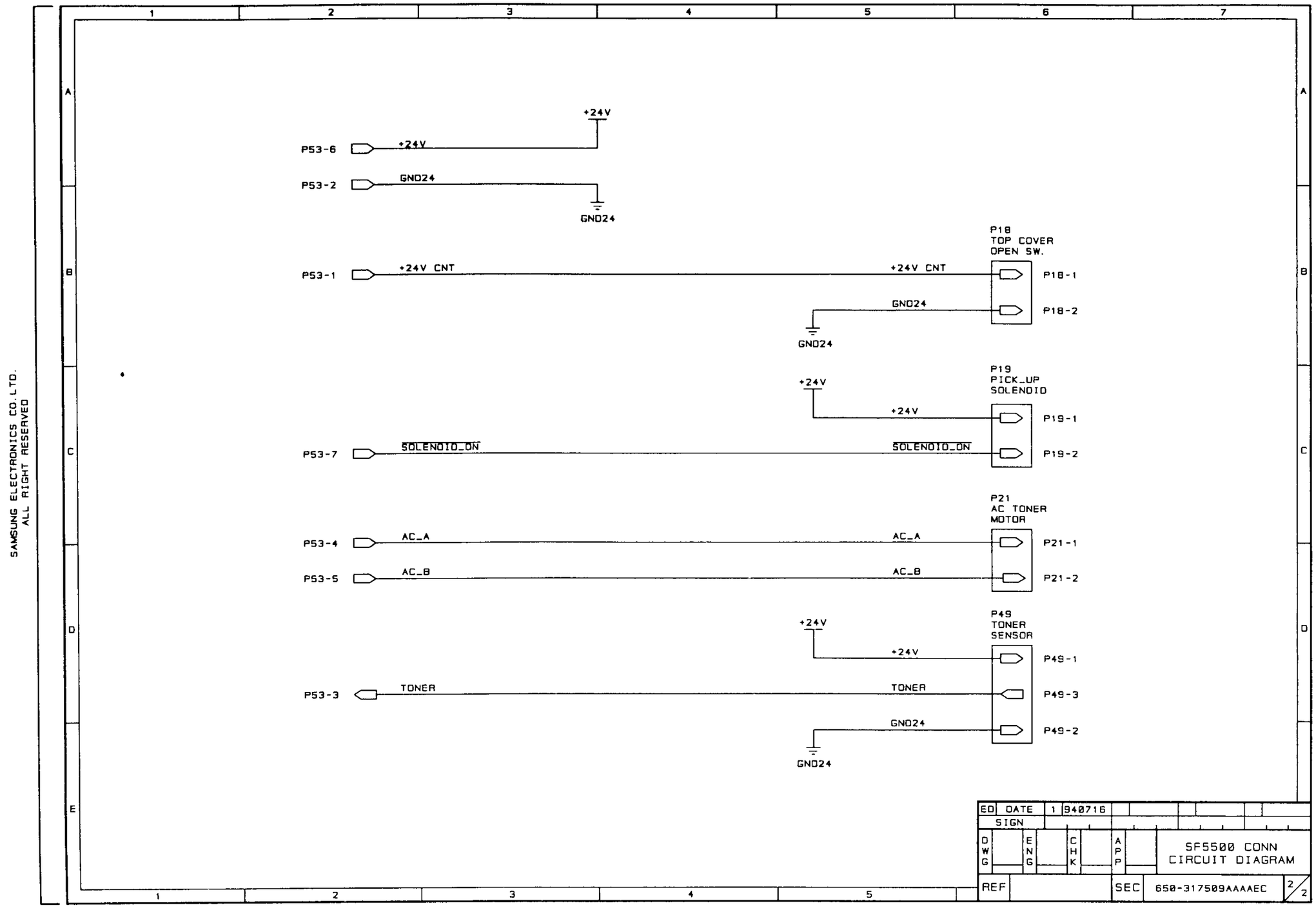
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P53-6
+24V
+24V
P53-2
GND24
GND24
P18
TOP COVER
OPEN SW.
P53-1
+24V CNT
+24V CNT
P18-1
GND24
P18-2
GND24
P19
PICK_UP
SOLENOID
+24V
+24V
P19-1
P53-7
SOLENOID_ON
SOLENOID_ON
P19-2
P21
AC TONER
MOTOR
P53-4
AC_A
AC_A
P21-1
P53-5
AC_B
AC_B
P21-2
P49
TONER
SENSOR
+24V
+24V
P49-1
P53-3
TONER
TONER
P49-3
GND24
P49-2
GND24
ED DATE 1 940716
SIGN
DWG
ENG
CHK
APP
SF5500 CONN
CIRCUIT DIAGRAM
REF
SEC 650-317509AAAAEC 2/2